

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

12 January

Executive Board eleventh session Geneva

Included on the agenda of this session are regional matters review of programme and budget estimates for 1954 expanded programme of technical assistance for economic development organizational studies of (1) the education and training programme including fellowships and (2) regionalization International Sanitary Regulations medical supply services to Member States review of reports of expert committees and various other items relative to administrative matters and to the Sixth World Health Assembly

THE TRUE PROMISE OF TOMORROW

*Message of the Director General on the occasion of
United Nations Day 24 October 1952*

One of the important handicaps we will have to overcome in our efforts to build a better world is the sense of discouragement and frustration which prevails in many countries as to the role the United Nations is playing and can play in securing lasting peace and security for all nations. The main reason for this unhappy situation can be found I believe in a lack of understanding by many of us of the tremendous problems the United Nations and its specialized agencies are facing as well as in our failure to appreciate adequately the slow but significant advances these organizations have been making since 1946 toward a solution of those problems.

The man in the street is hardly to blame for this attitude. The story his daily newspaper and radio have been telling him for the last six years is almost entirely about disagreements and tension between nations about discussions and meetings ending in failure and generally about all disruptive aspects of the international life. No wonder then that his belief in the concepts underlying the work of the United Nations is being shattered and that his support for any organized action to bring nations together is still weak.

It is time for all those whose noble mission it is to mould and educate public opinion to remember that the most important news in the world today is that which marks progress toward the kind of existence to which we all must devote our energies: that is a world of peace, co-operation and prosperity.

It is indeed fitting that on this United Nations Day we should occupy our minds with constructive considerations rather than the defeatist philosophy which holds that history must repeat its errors but never its successes.

It is most important not to regard with undue pessimism the disputes between the nations which make the daily headlines. While man is working his slow way toward peace he must also be talking and arguing a way toward it. The world we all want will not be created by coining slogans but by the open discussion of our differences. We should not be misled by the headlines; we must think of the lines behind them.

One of the things that should be remembered is this: in most of the countries of the world today there are teams of international workers sent by the United Nations and its agencies and freely invited by the governments of the countries concerned whose sole aim is to help those governments improve the health, the education, the economic and labour conditions and the farming skills and systems of their citizens so that they may have true prosperity and happiness.

This is the real news of today: the news that does not often appear even in the small type and the three line item.

There is for instance, a New York nurse who six years ago was working for UNRRA to aid the people of war torn Greece. Today she is still far from home, helping to train in Israel the nurses who are one of that country's great needs.

On the same day in August that she set off from WHO's headquarters another girl left her native Sweden to help in Egypt's fight against tuberculosis. A Dutch doctor took a plane to Ethiopia to assist the Government in building up its public health services and a public health engineer from Minnesota found himself on the way to Ankara, in Turkey. All this happened in one day and in one specialized agency.

Yet every day throughout the year from the United Nations and from all of its specialized agencies such pioneers in the cause of peace and understanding are going about the true business of the world.

In their work lies the true promise of tomorrow. The story of what they are doing will be an encouragement for the millions of peoples throughout the world who can make the idea of a united world a living reality.

ENDEMIC SYPHILIS IN BOSNIA

Five years ago the Yugoslav Government requested the World Health Organization and the United Nations International Children's Emergency Fund (UNICEF) to participate in its programme to control endemic syphilis in Bosnia. Supplies and equipment were furnished by UNICEF, WHO sent experts to conduct a preliminary field investigation and later, to study the various phases of development of the programme itself. The planning, implementation and follow up of the programme were the responsibility of the Yugoslav Government. Dr E. I. Grin, Director of Health, Central Dispensary for Skin and Venereal Diseases, Sarajevo, submitted a complete report to WHO on the campaign which is now drawing to a close. This article is a summary of that report.¹

Bosnia Herzegovina

The area which today forms the People's Republic of Bosnia and Herzegovina has in the course of history been the theatre of a number of invasions. The Romans conquered it and governed it during four centuries. The first Slavs invaded it in the 7th century and it was an area of conflict between Eastern and Western civilizations until the 15th century when it was overrun by the Turks. It remained under Turkish rule until

¹ C. E. I. (1951) *Endemic syphilis in Bosnia*. Geneva (WHO). *Left of the O. G. I. all*. M. R. ap. S. r. l.
No. 13. 86 p. 2. 3 p. 4. 5. \$1.00 or Sw. fr. 4.— (English edition)

1878 and the Austrians occupied it from 1878 to 1914. After the first World War Bosnia Herzegovina became a part of Yugoslavia. Finally after the second World War and the struggle for independence it became a People's Republic within the Federal People's Republic of Yugoslavia.

Bosnia Herzegovina is a mountainous region with extensive forests. Communication is frequently difficult. The fact that economic and social progress has been very slow and that the population numbering about 2 565 277 should long have remained very little educated may be explained by topographical and historical factors. At the end of the first World War 87% of the population was still totally illiterate. Only 1 Moslem woman in 1 000 could read or write. As late as 1939 there was still a high percentage of illiteracy 56.4% of the men and 87.6% of the women. Since the end of the second World War however there has been considerable progress and by the end of the scholastic year 1949/50 some 600 000 persons had learned to read and write. Sarajevo the chief city of Bosnia has had a university since 1949. Today industrialization is developing fairly rapidly. The population of Sarajevo has increased considerably during recent years.

Syphilis in Bosnia

Syphilis was a serious problem in Bosnia as early as the 19th century. An attempt was made to evaluate the prevalence of the disease in a number of districts during the period of Austrian rule although the methods used were inadequate. Investigations carried out between 1905 and 1911 showed that 8% of the population suffered from the disease. Further investigations were carried out during the inter war period particularly between 1926 and 1933 in an attempt to organize a syphilis control programme. During this period serological examinations were performed and an infection rate of 11.8% was found. However until the second World War attempts to control the disease were effective only in limited areas as for instance close to large population centres where it was relatively easy to carry out a continuous campaign. Isolated or inaccessible areas were little affected and the situation remained serious.

The reasons for the failures of these early efforts are numerous. Both experience and adequate means were lacking. Examinations and case finding were carried out over restricted areas instead of covering the entire infected region. The epidemiological aspects of the problem were not considered and there were long interruptions in the work. Finally treatment with arsenicals and bismuth which was the only treatment then known was not suitable for mass work and the traditional way of living of the people and the lack of sanitation created a favourable environment for the recurrence of cases and for the perpetuation of the disease. The

FIG 1 PREVALENCE OF ENDEMIC SYPHILIS IN BOSNIA AND HERZEGOVINA 1951



second World War gave rise to new endemic foci as a result of the migration of refugees and of a further deterioration in sanitation. Fig 1 shows the areas where syphilis was endemic in 1951.

The Concept of Endemic Syphilis

The endemic syphilis of Bosnia is the same disease as sporadic venereal syphilis and there are no essential differences in the nature of the symptoms cardiovascular and neurological involvement occurring in both. But endemic syphilis is not venereally transmitted and the population does not consider it as a venereal disease, it affects both sexes at all ages but is most frequently acquired in childhood. The rarity of transmission by venereal contact is due to the fact that by the time persons have reached a marriageable age any infection which one of the partners may have contracted in childhood will already have reached a late and relatively non-infectious stage.

Endemic syphilis is a family disease transmitted from one member of the household to another. For instance children frequently contract it when playing with other children and introduce it into the family by first

infecting the mother who in her turn infects the other children and her husband. The activity of the endemic may be gauged by noting the proportion of infected children to the total number of cases found: the higher that proportion, the more active the endemic.

The most frequent mode of transmission is by the common use of kitchen or domestic utensils, particularly of drinking vessels (ibrik) passed from mouth to mouth (see fig 2). The first clinical symptoms of this form of syphilis may be mucous lesions in the oral region.

Endemic syphilis is most often observed among the rural population in areas with poor economic, social and sanitary conditions. This type of environment makes for repeated exposure to treponemes and for the spread of the disease. Syphilis became endemic in Bosnia because of the existence over centuries of epidemiological features favouring a certain mode of spread.

However, despite the fact that living conditions are equally primitive throughout the area, the distribution of endemic syphilis is very uneven in Bosnia. For instance, while in one administrative unit the general prevalence was 24.8%, it varied from 4% in one village to 60.1% in another. The reasons for this unevenness are still not clearly known: it is probable that social and family customs, migratory factors, the topographical structure of the country and poor communications play an important

FIG 2. COMMON USE OF THE IBRIK — ONE OF THE MOST FREQUENT METHODS OF SPREAD OF ENDEMIC SYPHILIS



part Family links and social contacts facilitate the spread of the disease, and prevalence is particularly high in those villages where most of the families are related to each other It has also been noted that the smaller and more compact the community the higher the infection rate Thus a recent survey revealed that villages with fewer than 200 inhabitants had an average prevalence rate of 22.5%, those with 400 to 600 people, 12.6% and those with over 600 people only 9.1%

Natural Course of Endemic Syphilis

The rarity in endemic syphilis of primary lesions normally found in venereal syphilis is explained by the particular mode of transmission in Bosnia Mothers may sometimes show primary lesions of the breast or nipple as a result of large quantities of treponemes being transmitted from oral mucous lesions in the child during suckling In general, however, conditions tend rather to favour the repeated transfer of small quantities of treponemes producing secondary enanthemata and exanthemata generally in the form of localized papules in the oral region

FIG 3 TERTIARY LESIONS — GUMMATOUS DESTRUCTION PRODUCING NASAL DEFORMITY



The late manifestations of endemic syphilis are similar to those of venereal syphilis and include gummatous lesions on the skin, in the nasopharyngeal region and in the osteoarticular system (arthritis and osteoperiostitis) neurosyphilis in all forms and cardiovascular involvement

Tertiary lesions are on the whole very frequent in Bosnia they generally occur in persons who have previously been treated for syphilis and who have remained sensitized or in those in whom treponemes have remained which may be reactivated under the influence of various factors Investigations have shown that when a new infection is introduced into a family

for instance by a child who has contracted the disease outside the home most members of the family develop early lesions but those who have previously received treatment for syphilis may exhibit tertiary lesions caused by superinfection

Congenital syphilis is rarely observed in Bosnia for two reasons (1) by the time a woman is old enough to bear children it is likely that if she has syphilis she contracted it many years previously and that it is in a late non infectious stage at which the risk of diaplacental infection is slight (2) mortality among congenitally syphilitic children born in this environment is high

Endemic syphilis seldom causes death and rarely results in total incapacity for work it has consequently not been considered as a very serious disease in Bosnia Gummata and other destructive lesions of the face or involvement of the central nervous system have no striking psychological effect upon the people However when living standards rise and greater social obligations are assumed as in those regions where there is a rapid development of industrialization the people no longer ignore the manifestations of endemic syphilis nor consider them as benign

Organization of the Syphilis-Control Campaign in Bosnia

The programme to control endemic syphilis which was begun in 1948 was based on the following criteria

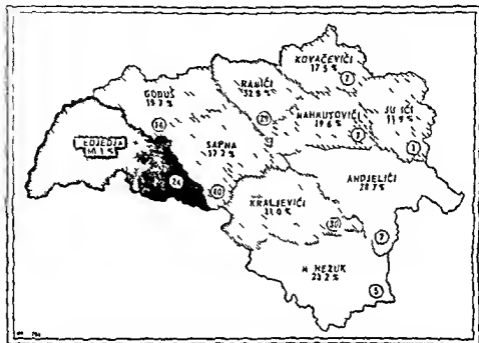
- 1 The entire population should be serologically as well as clinically examined
- 2 Obligatory and adequate treatment should be given to all diagnosed cases
- 3 Control examinations should include re examination not only of all cases originally diagnosed and treated but of the remainder of the population as well
- 4 Data should be recorded and control and follow up measures taken on a family basis and the individual cards of infected persons should constitute part of a family record
- 5 The active collaboration of the people should be secured and their interest in sanitation and health work stimulated
- 6 The same methods and public health principles should be applied in all the areas where the work is carried out

The work was divided among three teams composed of from eight to ten members each The team leaders all had fairly extensive experience in specialized institutions and in the field Each team was under the supervision of the health officer of the district and was responsible for one district at a time the average population of a district was 30 000-40 000

FIG 4 SEROPOSITIVITY RATE AND NUMBER OF CASES OF SECONDARY SYPHILIS IN AN ADMINISTRATIVE UNIT (MNO SAPNA)

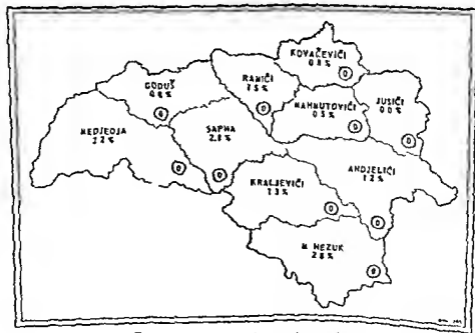
Systematic Examination and Treatment 2 X 1949

Seropositive 248,7



Third Control Examination 10/1952

Seropositive 14,



○ Number of cases of secondary syphilis

The teams were generally subdivided two members working in one village. A serological field laboratory manned by practised technicians was at the disposal of each team. Blood samples were sent to the field laboratory and always arrived on the day they were drawn. There qualitative Kahn and Meinicke tests were performed, a field laboratory being able to carry out approximately 600 tests a day. All cases of syphilis detected clinically or serologically were treated immediately.

The treatment was obligatory and the people who had been informed of the aims of the campaign co-operated willingly. The team members remained in one place until the examinations had been completed and the treatment given, working all day and into the evening. As they gained experience the teams succeeded in examining some 85% of the population during the first visit; during the subsequent control examinations this proportion was increased to 95%. Those who were not examined were either persons absent from their homes or very young children in healthy families. Complete penicillin treatment was given in almost 100% of the cases, whereas in previous control efforts with arsphenamine and bismuth only 15% to 20% had completed their treatment.

Treatment

Procaine penicillin G in oil with 2% aluminium monostearate (PAM) was used in the campaign. In the early stages PAM combined with bismuth was sometimes given but the results obtained with this regimen were not different from those obtained with PAM alone.

At the start of the campaign the treatment schedule was 3 600 000-4 200 000 units of PAM given daily or every second day in a total of six or seven injections of 600 000 units each. However in certain cases the total dose was given in a shorter time either in three injections of 1 200 000 units each or in a single injection; the results were equally good. It even seemed that in cases of seroresistance it was more effective to give the same quantity of penicillin in a single injection than in several. Thus the single injection schedule came to be adopted very frequently and the results proved in no way inferior to those obtained with several injections. Re-treatment was given to all persons who were found at control examinations not to have responded satisfactorily to the original treatment.

It was not possible to determine precisely what the optimum interval between the initial examination and the re-survey should be but the author considers that control examinations should take place at intervals considerably shorter than two years so that fresh cases will not become foci for a further spread of infection in the area and those cases should be detected and treated as early as possible.

When the campaign started, it was believed that the chief risk in perpetuating the disease came from infectious relapses in cases where treatment had failed. It became evident however, that the greatest risk was represented by infected persons who had remained untreated by new cases of syphilis imported from other areas, and, particularly, by symptomless cases in the incubation period at the time of the original examination in whom infectious lesions subsequently developed. It thus became apparent that the reduction of the reservoir of infection depends on the abortive treatment of family contacts and treatment is now systematically given to all persons whose clinical and serological findings are negative but who are exposed to the risk of infection from other members of the household. The dose for abortive treatment finally adopted after various trials was a single injection of 1 200 000 units (4 ml) of PAM. Treatment with a dosage lower than that used for normal curative purposes is justified as a smaller quantity of penicillin is required for treatment early in the infection. Experience has shown that abortive treatment must be given simultaneously to all family contacts.

Once all the contacts in a family, as well as all the cases have been treated no relapse or seroresistance will appear unless a fresh infection is imported from outside. There are reasonable grounds for supposing that a large number of so called relapses or cases of seroresistance are actually reinfections and the author cites as examples a number of families in which such reinfection occurred.

Results

Evaluating the results of the campaign the author states

The reservoir as a whole has been brought under control and the attitude of the people to the problem has been altered: this is due partly to some general improvement in social and economic conditions partly to the work of the field teams and to the general progress of the campaign and partly to the fact that new cases of endemic syphilis are now detected more rapidly and can be more rapidly dealt with.

In our experience it is possible under favourable conditions to eradicate the infectious reservoir completely within a short period of time by mass treatment. In other cases the disease can be checked and the infectious reservoir reduced to a minimum over a somewhat longer period and ultimately eliminated. In both instances true relapses and reinfections and reintroduction of the disease from other areas must be watched for and constant supervision of previously endemic areas is necessary as part of the long term programme.

In Bosnia, such supervision is being provided by former field team members who remain in areas where the campaign proper has come to an end and who co operate with local health centres which are assuming the responsibility for keeping the disease under control. This is part of a long term programme which is serving as a bridgehead to the development of general public health services and to the expansion of the machinery against all communicable diseases.

REGIONAL COMMITTEE MEETINGS

In September 1952 three of the WHO regional committees met in various parts of the world the Regional Committee for the Americas (fourth session) in Havana Cuba from the 15th to the 24th the Regional Committee for Europe (second session) in Lisbon Portugal from the 25th to the 27th and the Regional Committee for the Western Pacific (third session) in Saigon Vietnam from the 25th to the 30th

The Americas

Report on year's activities

In his report on the activities of the year the Regional Director stressed the work in health demonstration areas which represent long range programmes for improving health conditions the annual nursing workshops which give training to regional nurses the activities of the Institute of Nutrition for Central America and Panama the fight against yellow fever which continues to be a health problem in certain countries of the Region the yaws-eradication campaign in Haiti experiments with dry vaccine in smallpox vaccination projects and the work of the astosa centre in Brazil He called attention to the great expansion of the Organization's work and to the funds which are being made available for it through national technical assistance programmes the Institute of Inter American Affairs the Rockefeller Foundation the Kellogg Foundation and the Organization of American States as well as through the regular WHO and UNICEF budgets

Fourth session of the committee

The meeting was attended by representatives from Brazil Chile Colombia Costa Rica Cuba Dominican Republic Ecuador El Salvador France Guatemala Haiti Mexico the Netherlands Nicaragua Panama Paraguay Peru United Kingdom of Great Britain and Northern Ireland USA Uruguay and Venezuela Dr Carlos Luis González (Venezuela) was elected Chairman and Dr Enrique Saladrigas y Zayas (Cuba) and Dr Cesar Velez Morán (Ecuador) Vice Chairmen

The committee adopted a programme for 1953 which continues activities of the type reported for the previous year and approved a budget of about two million dollars The proposed programme and budget of the Region for 1954 was transmitted to the Director General Among other decisions taken by the committee was approval of expenditure of an estimated \$306 000 00 surplus of the Working Capital Fund for construction and alteration of the buildings of the interim headquarters translation into Spanish and publication of the textbook *Principles of*

public health administration, by J J Hanlon, a programme for the eradication of smallpox, and the award of additional fellowships in 1953

The next meeting of the committee will take place in Washington, D C, from 14 to 25 September 1953

Europe

Report of Regional Director

In a report to the Regional Committee for Europe, the Regional Director informed the members of action taken on recommendations made at its first session. In addition to problems of staffing of the Regional Office and selection of a site for the Office the report deals with specific programme recommendations for 1953

Second session of the committee

The following Member States were represented: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and Yugoslavia. Also present were representatives from two Associate Members: Morocco (French Protectorate) and Tunisia. Dr A da Silva Travissos (Portugal) was elected Chairman and Dr E Aujaleu (France) and Dr C van den Berg (Netherlands) were elected Vice Chairmen.

In considering guiding principles for a general programme of work for Europe, the committee recorded its intention to review regularly such principles as they might apply as a result of further experience of the Organization's work in the Region. Since educational projects constitute an important aspect of WHO's work in Europe, the committee requested the Regional Director to transmit to the Director General a suggestion that terms such as seminars, symposia, conferences, etc., be studied in collaboration with the United Nations and its specialized agencies with a view to arriving at mutually agreed definitions.

It was decided that the moment was not opportune for fixing the site of the Regional Office and that Member Governments should be consulted concerning their views on this matter. Provisionally the Office will remain in Geneva for at least one year.

An account of the work of the International Anti-Venereal Disease Commission of the Rhine was presented and a decline in venereal diseases along this river was noted; the committee consequently requested the Regional Director to consult with the governments of the countries concerned and with the International Labour Organisation as to the desirability of establishing a health and social commission to deal with the wider problems of the boatmen and their families. A report together with a

financial estimate of the possible cost involved is to be submitted to the committee at its third session

A redesign of the 1953 programme was studied and two projects reconsidered and subsequently approved a conference on health education and a conference on teaching of preventive medicine Programme proposals for 1954 were also discussed and approved

The next session of the committee will be held during the first half of September 1953 in Copenhagen An invitation from the Government of Yugoslavia to hold the 1954 session in that country was accepted

Western Pacific

Second annual report of Regional Director

The report of the Regional Director to the committee described the development of health work within the Region during the preceding 12 months as directed by regional advisers and an international field staff of 33 persons from 23 different countries Among the activities were maternal and child health projects in Cambodia China (Taiwan) and Vietnam nursing assistance in Brunei Cambodia China (Taiwan) Malaya North Borneo and Singapore malaria control projects in Cambodia China the Philippines Sarawak and Vietnam tuberculosis control campaigns with UNICEF in China Hong Kong and Singapore planning for venereal disease-control demonstrations in China (Taiwan) Hong Kong and the Philippines efforts against trachoma and bilharziasis education and training activities through granting of fellowships and sponsorship of seminars and symposia and the work involved in arranging for the provision of medical equipment and supplies to a number of Member States

Third session of the committee

Present at the meeting of the Regional Committee for the Western Pacific were representatives from Australia Cambodia China (Taiwan) France Japan Korea Laos the Netherlands New Zealand the Philippines Portugal the United Kingdom of Great Britain and Northern Ireland and Vietnam Dr H Marcel (Vietnam) served as Chairman and Dr J B Mathieson (Australia) as Vice Chairman

Following its review of the proposed programme and budget for 1954 and of the approved regional programme and budget for 1953 the committee authorized the Regional Director to establish if necessary priorities for the implementation of projects The priorities are to be based on following criteria (1) value of the project to more than one country or to the Region as a whole (2) the place of the project in the long term health plans of the government concerned and the government's other intentions as regards the particular problem (3) the association in the

project of more than one international health organization, and (4) the incidence of disease the total amount of assistance being received from WHO, and the availability of other sources of assistance

The Regional Director was requested to communicate to Headquarters the desire of the committee to hold an inter regional rural malaria-control conference in the Region in 1954 The need for pooling information on public health problems led the committee to recommend that a special study be undertaken on the possibilities of (1) establishing a clearing centre at the Regional Office for the collection and distribution of such information among the Member Countries (2) encouraging more grants for intra regional fellowships, and (3) sponsoring more intra regional seminars

Technical discussions on undergraduate medical education in the Region formed a part of the session and were so successful that similar discussions are to be included on the agenda of future meetings

The meetings in both 1953 and 1954, which are to take place in either the second or the third week of September, will be held in Manila, unless invitations to hold them elsewhere are received in good time

TRAINING COURSE FOR NURSING INSTRUCTORS IN MEXICO¹

As in the majority of Latin American countries one of the more urgent health problems in Mexico today is a lack of qualified personnel to give instruction to and supervise the clinical practice of, student nurses An additional problem is that of bringing up to date the curricula of nursing schools which have become outmoded owing to rapid advances in medicine and to changes in nursing techniques In an effort to solve these problems the Ministry of Public Health and Welfare and the National Autonomous University of Mexico which are entrusted with the training of nurses sponsored a course for nursing instructors WHO aid was requested and obtained through the technical assistance programme The course began on 14 January 1952 and lasted until 7 June it included 880 hours of actual working time in the 21 week period covered

Organization and Administration

An organizing committee was formed to administer the course This was comprised of representatives of the Ministry of Health the National

¹ This article is based on a report by Miss Hilda Loefer WHO Nurse Consultant

Autonomous University the National Nurses Association two hospitals with schools of nursing and two public health agencies. The committee outlined the course to be given obtained the collaboration of eight hospitals and two public health agencies chose the instructors set up admission requirements and selected the students five of whom were granted WHO fellowships.

There were 28 students including directors and instructors from schools of nursing supervisors of public health services and supervisors and head nurses from various hospitals. Their ages ranged from 19 to 25 years and their professional experience and educational background were varied. 12 schools of nursing were represented. Since one of the objectives of the course was to teach teamwork the students were organized in five groups of six students each with one chief. These groups were rearranged every month so as to promote wider acquaintanceships among the students.

The Course

The course was divided into two periods. During the first the student instructors followed a programme in which social sciences general nursing and selected aspects of the principal fields of nursing were reviewed in great detail. In the second they applied the knowledge gained during the theoretical part of their course in practice teaching under supervision.

The subjects taught included sociology (30 hours) mental hygiene (30 hours) clinical supervision and ward administration (60 hours) nursing history and ethics (20 hours) nutrition (30 hours) nursing—general medical surgical paediatric obstetrical psychiatric communicable disease and public health—(368 hours) principles and methods of teaching (50 hours) and advanced Spanish (25 hours).

The nursing practice and studies were organized on a weekly basis. Two weeks were devoted to general nursing three to public health nursing and one week to each special field. All the practical work was done under the direction of Mexican nurses who had either studied abroad or who had had specialized training in their own country.

The practice teaching during the second stage of the course was done at the Nursing and Obstetrics School of the National Autonomous University of Mexico. Each student instructor had full charge of four daily sessions besides helping to supervise the students' work. Each received personal supervision in her classes and a group of colleagues was always present at the classes and co-operated in the demonstrations. At the end of the day the groups met for brief discussions of their activities.

Results

At the beginning of the course a test on principles and concepts of education supervision and general nursing was given to determine the

educational status and competence of each nurse. When the same test was given at the end of the course, considerable progress was noted.

Perhaps the most effective evaluation of the work of the student instructors was given by the students of the school of nursing at the University. Upon being informed that they were to be taught general nursing by instructors who were themselves learners, they called a meeting of the entire student body of the school. It was decided that the first year students would submit to the practice teaching and that if at the end of two days the classes were judged unsatisfactory the whole school would walk out on strike. This threat was never carried out. In fact, the student nurses voluntarily gave up part of their April-May vacation in order to continue receiving instruction from the practice teachers.

The nursing school of the University underwent a transformation as a result of the course. Among the changes which were introduced were the following:

1. A ruling was made by which future candidates to the school of nursing must have a degree of 'bachillerato' (12 years of study), previously only the secondary course (9 years of study) was required.

2. The University agreed to construct a special building for the school and granted the temporary use of a building for teaching purposes.

3. It was agreed that a permanent body of nurse instructors should be maintained and that teaching facilities—rooms for classes and demonstrations and fields for hospital and public health practice—should be provided, all of which were non-existent at the University.

4. Teaching posts previously held by assistant physicians were assigned to qualified nurses.

THIRD SEMINAR FOR EUROPEAN SANITARY ENGINEERS

The third seminar for European sanitary engineers was held in London from 27 October to 1 November 1952, under the auspices of the Government of United Kingdom, the Rockefeller Foundation and the WHO Regional Office for Europe. Particular stress was laid in this seminar on the need for co-operation between engineers and the other specialists who together make up a team of public health workers. The participants, numbering about seventy and including delegates from 18 European countries, comprised sanitary engineers, chemists, health officers, bacteriologists, soil scientists and others.

The number of recommendations made at the first and second seminars¹ was far too great to be covered at one meeting it was therefore decided that the agenda for the third seminar should be based on one main technical theme—sewage works for small groups of houses and isolated dwellings with particular emphasis on the septic tank—and on two secondary topics

Papers on the main topic were presented by various specialists² From the host country Dr J A Scott discussed public health considerations Lt Col F G Hill and Mr G Lloyd Ackers dealt chiefly with the engineering aspects of the problem Dr L A Allen and Miss Hazel N Smith compared the bacteriological results of treatment in large and small sewage works and Mr A R J Pettet and Mr E E Jones reported on the results of a two year experiment in Great Britain on the performance of five small sewage treatment plants Professor F J L Meinck of Berlin spoke on general factors governing sewage treatment and on particular experiences in Germany Professor E Leclerc contributed information on Belgian experiments comparing the working of septic tanks Swiss investigations on the quality and disposal of effluent were considered by Mr W Dardel and Dr F W Mohlman summarized the most recent conclusions of the United States Public Health Service on small sewage plants

One of the secondary items on the agenda—disinfection of water—was treated by Mr L J Coin of France The other item—the role of the sanitary engineer—was reserved for examination at the Public Works Congress and Exhibition whose opening in London followed the seminar

Certain points received special attention during the discussions

1 It was agreed that small sewage plants should be as free as possible from maintenance considerations Methods of organizing and intervals between the indispensable minimum care were considered

2 Although in some cases treatment with septic tanks alone might be satisfactory it was felt by many that this should be followed by secondary processes such as percolation filtering

3 The use of two storey and multi compartment tanks received much consideration It was fairly generally agreed that the former should not be used for less than 30 people and that more research on design was required

4 The question of sludge disposal was raised several times Emphasis was laid on the necessity for leaving some ripe sludge in the tank at the time of cleaning in order to seed the fresh sludge Desludging at 6 month intervals was generally approved with the proviso that a 12 month interval might be more suitable for very small tanks where sludge disposal was difficult

During the seminar, participants visited a number of experimental plants on the outskirts of London the Metropolitan Water Board, and a mains sewage system which also collects sludge from scattered small plants. Methane gas from collected sewage is used to drive the pumps for the 55 miles of main sewers in the area and the purified sewage is converted into fertilizer.

It had been recommended at the second seminar that information should be obtained on national associations of sanitary engineers with a view to the subsequent creation of an international association. Professor W. F. J. M. Krul had prepared a progress report on this topic. Mr. J. E. Holmstrom, of UNESCO, at the request of WHO had made a list of dictionaries and glossaries of sanitary engineering terms and gave suggestions on the preparation of a polyglot glossary.

Owing to the amount of work entailed in the preparation of a seminar, it was decided that the interval between seminars should be extended to 18 months. In that case the fourth seminar for European sanitary engineers should take place in the early spring of 1954.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Psychiatry in the USA, Great Britain and the Netherlands

Dr. Paul Sivadon, médecin des Hôpitaux psychiatriques de la Seine, France, was enabled through a WHO fellowship to study trends in psychiatry in the USA, Great Britain and the Netherlands. A résumé of some of his observations follows.

USA

A disturbing increase in the number of the mentally ill during the past ten years has confronted Americans with a problem which has suddenly become acute. In a population of 140 000 000 there are 700 000 persons hospitalized for mental illness. The number of beds occupied by neuropsychiatric cases represents almost half of the total number of hospital beds in the USA and it is estimated that another 400 000 to 500 000 beds are

needed for psychiatric services which are very much overcrowded. Psychiatrists number about 8 000 in all but 18 000 are needed. Nurses, social workers and psychologists are also lacking.

Americans have sought large scale and drastic solutions for this problem. The essential features of the programme which they have undertaken comprise improvement and particularly expansion of hospital facilities, training of medical and auxiliary personnel, development of preventive measures and means for ambulatory treatment, scientific research and publicity.

There are 600 psychiatric hospitals and about 900 outpatient departments, most of which provide ambulatory treatment. At the federal level there are a research organization—an institute for mental health which is one of the National Institutes of Health—engaging particularly in statistical studies at present but soon to include a centre for clinical research, and a large 7 000 bed psychiatric hospital, St Elizabeths in Washington D.C. Other psychiatric hospitals include State hospitals (about half of the total number), municipal hospitals, Veterans Administration hospitals (for former service men) and private institutions.

The State of New York is among those with the greatest prevalence of mental illness. The State Department of Mental Hygiene is one of the most important of the State departments. It occupies the whole of the 18th storey of a large building housing the State offices at Albany and has annexes in Buffalo and New York City. It has charge of 120 000 patients hospitalized in 27 institutions. These institutions comprise 20 psychiatric hospitals (Pilgrim the largest handles 14 000 patients), six schools for backward children, and one hospital for epileptics. 25 000 people are employed by the Department which has a budget of more than a million dollars. The organization is highly centralized and an effort is made to standardize all activities, from the preparation of meals to method of administering shock therapy.

As an example of a State hospital Dr Sivadon describes the organization and work of the Worcester State Hospital in Massachusetts which has 2 800 patients. This hospital employs about 700 persons, of whom 28 are physicians. Its facilities include a farm and workshops. Occupational and industrial therapy is very highly developed. The medical work is carried out here, as almost everywhere, by a medico-social team. The social service division does everything possible to encourage leaves from the hospital and to facilitate contacts with the family environment. Efforts are also made to interest employers who come to visit the patients in attending conferences and participating in the rehabilitation of the patients. The role of the social workers in this hospital is very important; they are essentially the family therapists and deal with the "social" elements of the case in the same way in which the physician takes charge of the treatment of the patient. Co-ordination of the activities of the doctor, the psychologist and the social worker is achieved through "team" meetings at which the psychiatrist is the moving spirit and the leader.

In general, much attention is given in the USA to the problems of childhood. There are numerous child guidance clinics, but the number is still inadequate; some of them have waiting lists for from six months to two years.

Publicity is another aspect of the fight against insanity, and one in which cultural and social groups of all kinds collaborate.

The psychoanalytic influence which permeates psychiatry in the USA leads American psychiatrists to give much consideration to "psychosocial dynamics" and to attach importance to the role of psychologists and social workers in combating mental illness.

Great Britain

In this country the problem of insanity has been studied for a long time; the first legislation regarding the mentally ill dates from 1890. The British have come to realize that the problem of psychiatry has numerous and profound ramifications, that it is

primarily a social problem and that the treatment of the individual patient is only one aspect of a large whole. Thus they have a wide variety of measures for prevention, treatment and assistance. Many private organizations—such as the National Council for Mental Hygiene, the Tavistock Institute of Human Relations and the National Institute of Industrial Psychology—seek to prevent the causes of pathogenic conflicts, through marriage counselling services or giving advice on maladjustment in school or at work, for example.

Certain psychiatric hospitals are concerned with the most antisocial forms of insanity (difficult aggressive and criminal patients). Others have many different types of treatment facilities. Every effort is made to keep institutionalized only patients who cannot benefit from other forms of treatment. The number of hospitalized patients is about 132 000 for a population of approximately 50 000 000 inhabitants.

The mentally deficient are cared for separately, most frequently in settlements. Private organizations (National Council for Mental Hygiene, the Mental After-Care Association, etc.) also aid in trying to place the mentally deficient in suitable institutions. An attempt is made to provide different types of aid through centres for ambulatory treatment, day hospitals, post-cure clubs, special farms for the mentally deficient and special factories (Remploy Factories¹ and Thermega Ltd). Vocational rehabilitation is well organized. While the Remploy plants give work to both the physically handicapped and the mentally handicapped, Thermega Ltd, which manufactures electric blankets, is reserved for the mentally ill. It employs 112 psychoneurotic workers and its work can compete with other industries. Dr Sivadon considers this an ideal form of assistance.

The Netherlands

In the Netherlands psychiatric assistance is largely private. The various population groups (protestant, catholic, etc.) have their own institutions. These institutions are supervised by three psychiatric inspectors attached to the Division of Public Health of the Ministry of Social Affairs. The guiding principle of the administration is that every mentally ill patient should be able to receive treatment as easily and completely as any other type of patient.

The psychiatric services for a population of 10 000 000 comprise dispensaries (giving short-term treatment without formality) in all university centres and in some large cities, about 40 psychiatric hospitals (national, provincial or private) taking care of about 26 000 patients, approximately 165 schools for mentally retarded children, handling more than 20 000 children, and day schools and settlements accommodating about 4 000 children, and numerous child guidance clinics. In addition there are an excellent medico-legal organization and, in particular (at least at Amsterdam, the Hague and Groningen), a noteworthy pre- and post-cure service which assures the co-ordination of the whole.

There are workshops for the mentally deficient, for all levels of illness. These are managed by private agencies. Many different types of work are carried out in these shops by people who come in the morning and leave in the afternoon. They are then able to rejoin their families. The value of their work is such that their products are in demand at a somewhat high price. The city pays the wages for each person employed and grants a subsidy to make up for any deficit. This type of assistance is much more economical in some cases, particularly for the very retarded and for epileptics.

In some large cities there is a municipal mental hygiene service. At Amsterdam six full-time psychiatrists for adults and three for children give continuous service. In this way it is possible to have immediate psychiatric aid when required. They attempt "orientation" without resorting to coercive measures, preferring to run certain risks

rather than to lose the confidence of a patient. In fact antisocial actions on the part of the mentally ill have become very rare (for example there are only five or six suicides per year) since they know that society will not subject them to any repressive measures

* *

Dr Sivadon concludes that in the USA the keynotes are construct hospitals teach doctors conduct scientific research and educate the public. In Great Britain the concerns are the same but are extended to include research on the psychosocial causes of the increasing number of cases of insanity and attempts at flexible and varied solutions in keeping with the polymorphic nature of the disorders which are to be prevented and combated.

In the Netherlands it is the private agencies which have taken the initiative in providing psychiatric assistance the only problem is to co ordinate their efforts. This has been achieved at the medical level to the exclusion of all repressive measures and administrative complications. In addition research and publicity are carried out in a pragmatic way—with consideration for common sense balance and economy—which commands admiration.

Notes and News

Dr Brock Chisholm to Retire Next August

Dr Brock Chisholm, Director General of the World Health Organization, has announced his decision not to accept the renewal of contract unanimously offered to him by the Fifth World Health Assembly. His contract expires on 21 July 1953 and the Assembly had proposed a prolongation of three additional years.

Dr Chisholm was appointed by the First World Health Assembly as the first Director General of the World Health Organization for a five year period starting 21 July 1948. He had previously served for two years as Executive Secretary of the WHO Interim Commission.

Dr Chisholm communicated his decision to the President of the Fifth World Health Assembly, the Hon. Juan Salcedo, Secretary of Health of the Philippines, in a letter dated 4 November. In his reply Dr Salcedo stated that this decision would be a cause of deep regret to the World Health Organization to which you have given your best and which you have served so well. I am certain I bespeak the sense and feeling of the Fifth World Health Assembly that with your separation from the World Health Organization in your capacity as Director General the Organization shall lose its greatest exponent in the cause of world health. Dr Salcedo communicated the Director General's decision to the members of the WHO Executive Board. The Board meets in Geneva on 12 January 1953 and will have to consider a new nomination for submission to the Sixth World Health Assembly scheduled to start in Geneva on 5 May 1953.

In a message to his staff Dr Chisholm explained that his decision not to accept the "generous offer" made by the Assembly "had not been made lightly but after serious consideration of all the factors involved."

The major reasons for my decision," Dr Chisholm stated "are that I believe that a permanent organization should not have the same head for too long particularly at

the beginning of its history. There is a real difficulty in too firm identification of a world organization with one person. After two years with the Interim Commission and five with WHO I feel that a change of Director General bringing a fresh approach would be healthy.

In every way it appears that WHO is in very good condition to stand the minor strain of a change in the person of the Director General, a change which in any event would be inevitable in the not too distant future.

Malaria Control in Burma

The malaria control project undertaken in Burma in 1951¹ has already met with considerable success. At present a team of about 25 Burmese workers, under the leadership of a Burmese expert on malaria and with the assistance of seven specialists and technicians from WHO, are carrying out operations in an area of 800 square miles (2 072 km²). DDT spraying has resulted in the virtual disappearance of malaria from villages where formerly one third of the babies became infected with the disease during their first year of life. Blood smears from older people have revealed a general reduction of 80% in incidence of malaria.

The project is part of a five year Government plan to give antimalaria protection to a total population of 7½ million persons by 1957. The technical assistance programme of the USA Government has furnished the necessary supplies and equipment. The WHO demonstration is serving as a training ground for personnel and is also affording an opportunity for scientific investigations which will be of value to the Government in its larger programme.

With WHO assistance it is planned to give antimalaria protection to a population of 110 000 living in an area of 2 000 square miles (5 180 km²) during 1953.

Survey of Nutritional Diseases in Burma

A four month survey, the most important ever undertaken in Burma, has revealed that 60% of the inhabitants suffer from nutritional deficiencies. The survey covered representative population groups: schoolchildren, dock labourers, government clerks, nurses and social workers, and pregnant women and mothers. Most frequently observed signs of nutritional deficiencies were anaemia (especially among pregnant women, nursing mothers and adolescents), glossitis and xeroderma. It was found that the daily diet of the people lacked sufficient vitamin A, thiamine, riboflavin, iron and calcium.

The survey was directed by Dr R. Rao, WHO nutrition consultant and head of the nutrition department at the Haffkine Institute, Bombay. Among his recommendations to the Government of Burma were: (1) establishment of a nutrition department to study the incidence of nutritional diseases and to evaluate the foods in common use; (2) an experiment in schools to determine what supplementary foods would be acceptable to the people; (3) organization of community canteens for certain groups of the population; and (4) instruction of the people in the principles of nutrition. Dr Rao advised against the milling of rice, which removes much of its food value, recommended the manufacture of vitamin tablets from locally available material, and stressed the need to popularize milk as a food.

The Government of Burma is considering the establishment of a national nutrition council. Also acting upon Dr Rao's advice, the Government will request additional WHO fellowships in 1953 and 1954 to enable Burmese workers to go abroad for study of modern nutrition.

Two Physiotherapists Sent by WHO to Bombay

An investigation conducted in 1950 by a WHO team of experts on poliomyelitis revealed that this disease is responsible for 20% of the crippling of children in India and that there are thousands in need of rehabilitation. The team observed that the medical centre of the King Edward Memorial Hospital Bombay had been giving poliomyelitis treatment for 15 years but that it could not fulfil the needs of the country.

Following this survey the Government of India requested WHO aid in establishing a modern centre for physiotherapy. The Organization has provided part of the teaching equipment for this centre. Recently two physiotherapists were sent to Bombay: Mr R. J. Jacques (United Kingdom) who was formerly senior physiotherapist at the Orthopaedic Rehabilitation Annexe at Perranporth, Cornwall, and Mrs P. C. Mehta (USA) who until 1951 was assistant to the chief therapist at the Goldwater Memorial Hospital for the physically handicapped, New York, N.Y. Mr Jacques and Mrs Mehta will utilize the existing facilities at the King Edward Memorial Hospital to help develop training in physiotherapy as an integral part of a rehabilitation programme.

WHO Activities in the Eastern Mediterranean Region

Iran

Dr A. A. Smahl (USA), an expert consultant on venereal diseases, was sent by WHO to Iran at the beginning of December 1952. There, with the aid of a serologist, a public health nurse and a matching team of Iranians, he will direct a survey of the incidence of syphilis in Teheran and the surrounding region. He will also participate in training personnel from the various provinces so that the survey and treatment activities may be extended throughout the country.

Dr L. Lewis, industrial health consultant from Berkeley, California, USA, has returned from Iran where he was sent by WHO at the request of the Iranian Government to study health and safety conditions in industry.

Iran, which used to be a purely agricultural country, has in the past twenty years had to face all the various steps in industrialization, but social progress has not been able to keep pace with the changes which this industrialization has brought about. Today Iran is engaged in industrial activities which make use of the raw materials of the country: spinning and weaving of cotton, wool and silk; refining sugar; milling flour; preserving food; processing tobacco; husking rice and drying tea. These industries employ 57 000 workers; heavy industries such as railroads, mines and oil concerns employ another 150 000 persons, and an additional 150 000 work at handicrafts such as carpet making, in which conditions differ little from those in factories. Thousands of inexperienced people from rural regions have had to adapt themselves to industrial life. Although their adaptation has been excellent, it has become urgent to protect and improve the health of the workers, to provide industrial benefits and to promote industrial safety.

The Government has already enacted and partially applied a labour law which contains some excellent provisions and which Dr Lewis thinks may serve as a basis for a programme of health protection and social security. However, Iran lacks the technical personnel for carrying out such a programme. Dr Lewis has recommended that WHO and ILO aid in training personnel and in setting up a security scheme which will establish good sanitary and safety conditions in industries and the eventual integration of occupational health services into the country's public health programme.

Hashemite Kingdom of the Jordan

During October and November 1952 a WHO expert on mental health Dr A Milne (Scotland) conducted a survey in Amman of various problems concerning the treatment of the mentally ill in Jordan

Lebanon

A maternal and child health centre (WHO/UNICEF aided) was opened in Beirut at the beginning of August 1952. Intended to serve as a demonstration and training centre for local personnel, the centre has organized services for pre- and post-natal care, the prevention of diseases and domiciliary care, and has arranged refresher courses for doctors and nurses.

Pakistan

A venereal disease clinic is being constructed at Karachi. International and Pakistani personnel will be under the direction of Dr F R Curtis, consultant in venereal disease at the Whitechapel Clinic, London, who has been given two years' leave of absence to work for WHO.

With UNICEF and WHO assistance the Government is erecting at Dacca an antituberculosis training and demonstration centre. Elsewhere in the country—in Punjab, East Bengal, Baluchistan and the North West Frontier Province—teams of international and Pakistani personnel are continuing a BCG vaccination campaign.

Syria

A maternal and child health centre (WHO/UNICEF project) is to be opened in Damascus, Syria. A WHO team composed of a French physician, Dr H Humann, and a public health nurse, Miss J Lund of Copenhagen, will train Syrian doctors and nurses for work in all parts of the country.

A malaria-control demonstration has been initiated in the region of Homs. The team leader is Dr J Demiaud of France. This project includes an entomological survey of the malaria vectors, DDT spraying operations and training of national personnel.

Dr Brock Chisholm Receives Lasker Award

At its 80th annual meeting held in Cleveland, Ohio, USA, in October 1952, the American Public Health Association bestowed the Lasker Awards for the year upon six men distinguished by their contributions to medical research and the improvement of public health. These awards are considered among the highest medical honours in the USA. Dr Brock Chisholm was the recipient of one of the awards conferred upon him "for uniting the nations of the world in successful and constructive collaboration to attain the highest level of health for all their people."

Publication on the Regional Office for South East Asia

The Regional Office for South East Asia has published a new edition, revised and expanded, of an information handbook² which first appeared in 1951. This booklet of some 30 pages is designed to give health workers in South East Asia information concerning the role of WHO, its organization, its history and the types of assistance

² World Health Organization, Regional Office for South East Asia (1952) *WHO Information Handbook for South East Asia Region*. New Delhi.

which it can offer (sometimes in collaboration with other agencies) to governments in the Region. The financial aspects of such assistance are explained as well as the different steps to be taken by governments desiring WHO aid. Appendices give a list of the international personnel at work in the Region as of 31 October 1952 and a brief catalogue of WHO publications.

Film on Malaria in Thailand

The ancient curse—a film which shows the ravages of malaria in Thailand and the activities of a WHO antimalaria team in combating them—was exhibited in various cities of Europe during October and November. Special showings were given in Berne, Bonn, Helsinki, the Hague, Stockholm and Ankara; national premieres were held in Lisbon, London, Madrid and Paris. The film has enjoyed considerable success at United Nations Headquarters in New York, where it was being shown three times a week. Dr Brock Chisholm has said of this film: "I am sure that the dramatic story of the fight against malaria in North Thailand as told by 'The ancient curse' will bring home to millions of people what effective international co-operation can do to create a healthier, more prosperous and better world."

German Publication Concerning WHO

Number VI of a series of documents on international organizations published by the University of Hamburg (Germany)² is devoted to WHO. Dr L. Dischler describes the various stages in international collaboration in the field of health, ending with the creation of WHO and describing the Organization's activities during the past few years; he gives a brief account of successful disease control efforts in certain countries. In the second part of the booklet there is a German translation of the WHO Constitution with the accompanying English text and of the International Sanitary Regulations.

² Hamburg Universität. *Festschrift für Volkmar Dittmann* [1951].
Hamburg: Verlag Dr. O. Schmidt, 1951. 160 S. 16 cm. VI.

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CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

- 12 January
February Executive Board eleventh session Geneva
- Included on the agenda of this session were regional matters review of programme and budget estimates for 1954 expanded programme of technical assistance for economic development organizational studies of (1) the education and training programme including fellowships, and (2) regionalization International Sanitary Regulations medical supply services to Member States review of reports of expert committees and various other items relative to administrative matters and to the Sixth World Health Assembly
- 16-21 February Joint UN/WHO/ILO/UNESCO Expert Committee on the Mentally Defective Child Geneva

MENTAL HEALTH AND CHILD DEVELOPMENT

Much of the work of WHO in Europe takes the form of affording opportunities for specialists in particular medical sciences to enlarge and share their experience with colleagues from other countries. This is achieved not only through the granting of fellowships but also through sponsorship of or participation in seminars and symposia on various subjects.

A great deal of attention has been focused on mental health and advisory services to individual governments have been followed by co-operative programmes comprising training courses symposia and/or seminars on questions such as industrial psychiatry alcoholism general psychiatry and the mental health aspects of public health nursing. In 1952 special consideration was given to the mental health of children and its relation to physical development and health.

CHILD PSYCHIATRY AND CHILD GUIDANCE WORK

In the spring (21 April to 3 May 1952) the Norwegian Government, the United Nations (Division of Social Affairs) and WHO joined in sponsoring a Scandinavian Seminar on Child Psychiatry and Child Guidance Work. This seminar held near Lillehammer Norway brought together for lectures and discussions 44 physicians psychiatrists psychologists and social workers engaged in child guidance activities in Denmark Finland Iceland Norway and Sweden. The lecturers were Dr J Bowlby (Tavistock Clinic London) Dr S Escalona (Child Study Center Yale University USA) Professor E Erikson (Austen Riggs Foundation Stockbridge Mass USA) Dr E Miller (St George's Hospital London) Professor F Redl (Wayne University Detroit Mich USA) and Dr A Repond (Maison de Sante de Malevoz Montney Switzerland). A summary of the lectures and of some of the discussions follows¹.

Normal and Deviant Social Development of the Child

Normal development

Social development of the child is manifested primarily through physical functions. It is not definable in purely social terms but involves a social interpretation of physiological functioning sensory perception and other related mechanisms.

¹ This summary is drawn from a report on the seminar which has been issued by the WHO Regional Office for Europe.

The infancy period is of the greatest importance to the child and ultimately, to the emotional and social adaptation of the adult. During his first year of life, the baby changes from a purely reactive creature into a person aware of himself and others, capable of expecting certain things of remembering and being aware of his identity as a family member. It is a time of great complexity of experiences and of constant change. From his first day onwards there is an interchange of responses between a baby and the people in his environment and anything that goes on within him expresses itself in his relationship to other people.

What an infant needs from his social environment is satisfaction of his needs as they arise. These needs appear to be largely physical, and pleasure and gratification to be experienced mainly in the form of bodily well being. Small details in the care of a baby may contribute to his conception of the kind of place the world is and may affect his later orientation to other human beings and to his environment. Wholesome development depends upon his being loved by those who take care of him. In this connexion his relationship with his mother is particularly significant. In the care of the baby there is a system of reciprocity in which two sets of stimuli reinforce each other: as the mother performs certain tasks for the baby they elicit responses in him which in turn elicit in her a desire to give him more of what she thinks he needs.

The requirements and development of the child after the first year of life are more difficult to discuss in general terms because much depends upon the specific circumstances of each particular child's existence. However, there are certain developmental changes with corresponding changes in the expressions of the child's interest which appear with great regularity, although they may assume different forms. During the second year and the first part of the third year a child's social development seems to be characterized by intensity of emotion and a paradoxical type of behaviour in which his own responses to the outside world are exploratory, experimental, and manipulative but in which he demands extreme conservatism on the part of others, insisting that everything be done in the same way, that the same games be repeated etc. Since he is still not equipped to predict the behaviour of others nor to know the limits to which he can use his own powers he requires a certain sameness to help him understand the world. At this stage it is important for other people to aid the child in exploring his power to make the world as predictable and comprehensible as possible.

Deviations from normal development and causes of maladjustment

Discussion of deviations from normal development is complicated by the fact that a norm has never been established since the norm varies with the particular culture in which the child develops. It should start

however with consideration of the possible roles which body growth and instinctual drives may play in the creation of social crises for the child during his early years and with the questions of how the environment reacts on these crises and what will be the general outcome for the child in his development into a healthy person —defined by Freud as one who can work and love

The development of the child up to puberty may be described in terms of psychosexual stages and concomitant basic attitudes

1 *Infancy* This is the *incorporative stage* in which the taking in by the child of food and drink implies not only acceptance of what is given but also identification with the giver which in turn calls forth the ability to give. During this stage there should be established a basic trust—a feeling that although life is hard and there are always problems pain anger and disruption there are also ultimately ways and means of trusting certain people of trusting oneself one's own body and one's ability to control oneself and of trusting the world in general. The antithesis is basic mistrust. A child may learn to mistrust what he receives for various reasons one of them being the disturbing element constituted by a person who alternatively gives too much or too little.

There is a crisis in this first stage when an infant begins to bite. He then becomes more aware of things and more aggressive about what he wants to incorporate.

2 *Early childhood* At this stage the conflict becomes one between autonomous will and shame and doubt. The problem is to learn to trust one's own decisions as to what one wants or doesn't want to learn that one has a choice and an autonomous will and at the same time that this will must be adjusted to the demands of the environment. Failure to develop this autonomy leads to feelings of shame and doubt.

It is here that the *question of control arises*. The child can now control certain muscular expression. The ability to retain or to eliminate faeces and urine through sphincter control gives the child his first sense of autonomy emotionally it means that he can decide what he keeps or gives what he takes or throws away whom he accepts and whom he rejects. On the other hand he begins to accept control imposed by the environment (e.g. toilet training). It is at this stage that every culture begins to approach the child with demands and with measures which will test his ability to accept control. The issue becomes how to learn to control himself without feeling over controlled by the environment. The mother can impart the demands of the environment to the child in such a way that he can incorporate them and accept the relevant action as if he desired it himself.

3 *Play age* This stage manifests itself differently according to the sex of the child. For boys it is a period of intrusiveness for girls of inclusiveness. Boys play becomes more aggressive while the activities

of girls develop towards a configuration of femininity. This is the stage during which male initiative and female initiative are learned. Inhibition of the development of initiative may result in feelings of guilt in relation to suppressed goals, excessive will to succeed, general submissiveness, or actual pathological conditions. The amount of activity passivity, intrusiveness inclusiveness, which the child develops is determined by education which is rooted in the values of each cultural group.

4 *School age, or latency period* During this stage there is a tendency towards sublimation, towards work. The child is now ready to go to school, where he learns to enjoy the pleasure of completing a task and of working with others. He needs to feel some coherence of his school experience with the work of adults: an integration of his work with that of his parents.

Etiological factors of maladjustment within the child

Ideas about the heredity of mental disorders have occurred sporadically in the past 150 years, going from an exaggerated belief that all problems could be solved through knowledge of hereditary mechanisms to reaction against this exaggeration in the form of complete negation even with regard to such conditions as hereditary feeble-mindedness. Generally there is much confusion of ideas concerning heredity, which is transmitted through the generative cell, and congenital elements of the constitution, which may be produced in the intra-uterine stage. In any case, the theory of heredity is insufficient for an understanding of developmental processes. The most satisfactory explanation of normal and abnormal development is a psycho-biological view built upon the epigenetic theory of the development of the ovum.

According to the epigenetic theory the foetus develops from some earlier nucleus each part of which has its own time of development. When the sperm penetrates the ovum a so-called organizer arises and cell division proceeds. There follow organizers of the second, third, and higher orders. Each of these organizers plays a role in the stages of the egg development, in the epigenetic cycles until the child is born. An interruption in the early development of any part causes faults of growth and development, and damage to one part affects the hierarchy of the whole. On the other hand if interruption occurs at the end of a developmental stage the damage may not be final.

The psycho-biologist and the psychoanalyst take over where the biologist stops. They regard such phenomena as puberty and the cessation of menstruation which take place at certain ages as evidence of the continuation of epigenetic development. They believe that there must be organizers latent in the constitution which become active at certain stages and inactive again when their roles in the "organization" of the respective stages have been fulfilled.

It seems that at different stages there are certain automatic mechanisms which must run their whole course (e.g. sucking) and which cease when they have played their part. However if such a mechanism is interrupted before it has spent its energy and fulfilled its role in development then problems arise and the entire organism is disturbed. Disturbances of the cycles may manifest themselves in the form of "bad habits" which may have to be corrected through education or other means. Following the epigenetic principle it may be said that the optimum time for physiological restrictions is at the end of each developmental stage.

Application of the theory of epigenesis can help to eliminate the dangerous concept that some individuals are born with an unalterable psychopathic constitution which amounts to an idea of relentless predestination. It can be shown that there is no such thing as constitutional psychopathy though there may be a constitutional predisposition, a "psycho-allergy" which is not specific. Psychoanalysis commonly reveals disturbances in epigenetic development which account sufficiently for abnormal behaviour without having recourse to the theory of constitutional psychopathy.

Diagnostic Methods in Child Psychiatry

There is no psychological test which in itself can establish a diagnosis but many of the tests can be used to determine a developmental level, personality structure and specific psychopathology. The most important instrument in evaluating the results of such tests is the objective human observer and psychologists must develop within themselves a capacity for detailed accurate intuitive observation.

A variety of tests must be performed on the same child in order to arrive at a diagnosis. What is desired is a picture of the whole personality at a certain level of development working as a unit and not characterized only by certain traits since there is a dynamic relationship among all parts of the whole organism. Testing must be combined with observation and the results of both must be related to what has been learned about the child's social history.

In giving any kind of test three types of analysis should be carried out: an item analysis in which one tries to understand what kind of function is elicited by each item; a scatter analysis in which one thinks about the dispersion of successes and failures as a pattern; and an analysis of the relationship of the tester to the child.

Preventive Measures

Practical measures for prevention of psychic disturbances must be based on knowledge of the etiology of such disturbances. Although there is considerable disagreement among psychiatric and allied workers about

the origins of maladjustment, one etiological factor which has gained recognition during recent years is the separation of the child from his mother. Deprivation of the mother during the early formative years is a common cause of emotional trouble often manifesting itself in inability to establish satisfactory relationships with other human beings in later life.

Zoological studies of the relationships which birds, cats, dogs and horses make in their early years have shown that these relationships are not very different from those which human beings make. The young organism exhibits a tremendous drive towards the formation of a dependent relationship with an adult and the way in which this develops has a considerable effect on its character and social life in later years. Deprived of satisfactory love relations in early life all kinds of animals suffer the effects throughout their subsequent development.

The ability to co operate with other human beings is one of the natural social functions which must be developed in early childhood. A certain degree of co operation may be taken as a norm which everyone regardless of the culture in which he lives must attain if he is to be considered normal. Mental illnesses may be looked upon as breakdowns in the capacity to make continuous co operative relationships with other people. Since the first continuous co operative relationship any individual makes is with his parents, particularly with his mother, interruption or deprivation of the development of this relationship is a fundamental source of psychological maladjustment.

The first step in instituting preventive measures is to make members of the professions concerned—doctors, social workers, administrators, hospital personnel etc—realize the significance of parent-child relationships in the development of mental health so that separation of the child from his parents, particularly from his mother, may be avoided if at all possible. This has implications especially with regard to hospitalization and institutionalization of children, both of which are dubious solutions to particular problems from an economic as well as from a mental health standpoint.

Treatment

Group therapy

Group therapy, a comparatively new form of treatment, is "an attempt to manipulate a segment of the environment, particularly that segment which has inherent therapeutic values." It offers many new possibilities but it is neither shorter nor cheaper than other forms of therapy.

There are six types of activity which might be termed group therapy.

1. Mental hygiene group work. Example—a club for adolescent girls which may provide a needed social stimulus at the right moment.

2 Group therapy for special case work referrals Example—a church sponsored project in which a case worker helps delinquent girls to join a club which may foster valuable group relationships

3 Creation of group experience Example—camps for special groups such as delinquents or youngsters of somewhat low IQ (Intelligence Quotient)

4 Decontamination from artificial situations Example—group activities in a detention home hospital etc

5 Group therapy with a view to diagnosis Example—group activities in observation centres which may aid in making a diagnosis

6 Group therapy proper The group medium itself may be used for treatment purposes There are various levels of meaning for even this use of the term group therapy

(a) A partial area of a child's problem may be treated through group therapy while the major part of his pathology is approached through case work or individual treatment

(b) Following individual therapy the group therapist may try to help a child translate the potentialities liberated through this therapy into the actualities of living

(c) Group therapy may be used for treating the whole disturbance

The effect of group psychology and the influence of group climate on individual behaviour must be taken into account in applying group therapy There is need for further study of these factors so that full use may be made of the therapeutic possibilities of group relationships and activities

Individual therapy

Analytical therapy of children takes the form of fantasy activity promoted by play In a play situation a child may work out symbolically his hidden conflicts The therapist must provide an atmosphere for expression as well as the essential play material of which he himself becomes a part He is a source for projection of fantasy figures and a lightning conductor for the passage of emotional potentials from the child to himself

Interpretation of the child's private language calls for analytic insight on the part of the doctor Delay in interpretation is desirable in order to learn the individual expression of the cultural experiences of the child which determine the form of the idiom and specific culture contacts The younger the child the less is the need for interpretation since very young children form a rapport with adults on a quasi reality basis

In the latency stage (school age) drawing and conversation take the place of play as an analytical tool Dream analysis may be of value in children from the age of eight up to adolescence

Treatment of the parents must be undertaken along with that of the child. While the child is being handled by the therapist, the mother should receive social psychiatric help. In some instances the child parent relationship may be used in a quasi-analytical way.

Residential and institutional care

On the basis of analysis of reasons for referrals to institutions for children it may be said that the following are the functions of such institutions: (1) to foster an ego development in the maladjusted child, (2) to encourage social awareness, (3) to restore trust, (4) to aid the establishment of new relationships to substitute for previous unsatisfactory ones, and (5) to make use of all the abilities that the child possesses. The decision to send a child to an institution for treatment of behaviour disorders involves insight into both individual and social factors: the positive and negative attitudes towards a given society which the child has acquired and the social influences which have given the institution its character must both be taken into account. Referral to an institution is never an easy decision to make, and there is an urgent need for determining the criteria of selection for such referrals.

Generally, institutions of the camp life or cottage type structure are favoured. It is advisable that there be not more than thirty children in any institutional unit, and this group should be subdivided, if possible, into groups of not more than five or six children.

One of the most important problems in institutional care of children is the selection of suitable personnel for the institution. All who have personal contact with the child—domestic help, office personnel and others, as well as the professional staff—should be carefully chosen. Psychological maturity and warmth of nature combined with sympathy for, and love of, children are among the desirable qualifications. Selection of personnel should be made by a combination of individual interview plus a group interview, other members of the staff participating in the latter.

In service training of new personnel conducted by someone familiar with the institution is preferable to the giving of lectures by experts from outside. To interest really good personnel an institution should try to offer challenging work, experiences with the children, good supervision and in-service training, and well balanced group life for staff members.

Another point for consideration in an institution is its routine. Custom relieves the child of constantly making his own decisions, which has a calming effect, but it also means that the routine must be wisely defined in terms of the clinical needs of the disturbed children.

A fundamental concern in institutions for children is the degree of permissiveness which may be allowed. The scale of levels of permissiveness includes: (1) frank permissiveness, (2) acceptance of certain behaviour patterns although not approving of them, (3) allowing scope for learning

(4) emphasis on the limits in order to increase conscious awareness of what is acceptable behaviour and (5) actual forcible interference. Those working with the child must know the minimum demands which should be made in order to allow guilt free expression of his impulses. In addition behaviour which is harmless must be differentiated from that which is dangerous to the group situation and an attempt made to forestall the latter. Children can "inebriate" each other i.e. loss of control on the part of one child can have such a contagious effect that the whole group may become unmanageable. An increasing understanding of the "laws of contagion" and of the danger moments of behaviour will enable the institution staff to relax much more and to know when and how to interfere.

Those who work with maladjusted children must be able to take many set backs. Lack of evidence of improvement in behaviour should not be considered a sign of failure. Behaviour may become temporarily disorganized while mental growth is taking place in one particular area and in actual clinical progress there is temporary confusion of behaviour. It is important to understand the various stages through which the delinquent child passes in order to accept certain types of behaviour at certain times realizing that ground is being gained even though the contrary seems to be true.

MENTAL HEALTH AND INFANT DEVELOPMENT

In August 1952 WHO participated in another international seminar on the mental health of infants in relation to their emotional environment. This seminar conducted by the World Federation for Mental Health took place in Chichester Great Britain. WHO provided fellowships for more than 50 persons to attend this three week course—psychiatrists, psychologists, anthropologists, public health doctors, public health nurses, psychiatric social workers and others from 30 different countries. The members of the teaching staff in which all of the above mentioned professional disciplines were represented came from France, the United Kingdom and the USA.

This seminar was based on a series of clinical studies of children, the case material being gathered from three countries—France, the United Kingdom and the USA—in which there was already a considerable volume of work in this field. Six completely documented studies were made available from USA research projects, one of which had been in operation for more than twenty years. In France nine children from three different social milieux were studied for the seminar. Case studies of four children and information concerning a psycho-social investigation were presented by British contributors. In addition special topics were treated by faculty members who came for short periods.

Some of the points singled out by Dr K. Soddy, director of the seminar for presentation in a report to the World Federation for Mental Health, are summarized hereafter.

In a lecture on child development patterns in the USA, Professor E. Jackson, of Yale University, compared the advice given in the two best known manuals on infant care in the USA. The general trend appears to be one of 'enjoy your baby as he is', but this enjoyment seems to be somewhat self-conscious, less spontaneous than in certain other countries. In one of the discussions, the reluctance of many American parents to be authoritative was described. Dr M. Merd, anthropologist, pointed out that some middle class parents are bringing up their children at a higher social level than themselves which makes it impossible for them to serve as models for their children.

The French surveys of different social groups revealed that social practices are similar but environments very different with results that are likewise different. There were many examples to show that provided they are not subminimal, socio-economic conditions are less important influences than general atmosphere and the manner of living within the home. Dr Jenny Roudinesco of Paris traced the French family down a patriarchal line but with the mother like the Roman matron, supreme in the home. The stability which the French family owed to its rooting in the soil is perhaps being shaken, and there is a consequent danger of an increase of anxiety in mothers.

Professor D. R. MacCalman of Leeds, Great Britain, presented information concerning a study in an industrial area where the notion prevails that life is hard and that a child should be reared to fit him for such a life. It seems that British families are more concerned with discipline than those in France or the USA and that it is not always easy for mothers to enjoy their children.

Considerable attention was given to the effects of broken homes upon the mental health of infants, particularly of the separation of the child from his mother. The arrested emotional and social development of infants entrusted to institutions was emphasized in lectures and in films. Miss Anna Freud of the Child Study Centre, London, described her experiences with children separated from their parents during the war. She found that the direct effect of this separation on babies under one year of age was a great increase in somatic illness; older children showed disturbances of emotional development and regressive phenomena. She concluded from her observations that sibling jealousy occurs via the parents and that without parents there is more group identification. Miss Freud urged the adoption of a principle of no separation of brothers and sisters.

Dr Merd in giving an anthropological orientation to the seminar stressed the need for adaptation to a changing environment. Her film "Dance and Trance in Bali" provided an illustration of a cultural pattern.

in which a child is born into a known world and in which society has elaborate fixed devices to exteriorize internal anxieties in the form of stage plays. This was contrasted with Western cultures in which an attempt is made to prepare children for meeting the unknown future by making their primary relationships secure.

International Non-Proprietary Names

To avoid the inconveniences which result from the fact that the same drug is often known by different names in different countries WHO proposes to governments international non proprietary names recommending that these be adopted in so far as possible and protected accordingly.

Several lists of non proprietary names have already been published—in Volume I of the International Pharmacopoeia as titles of monographs and in the *Technical Report Series*¹. Other lists such as that which follows² will be published in the *Chronicle* from time to time as new international common names are proposed.

The various steps in the selection of international non proprietary names and the principles which govern this selection were recently explained in a *Chronicle* article³.

I t n a t i p p u e t y m
(Lat Eng h Fr h)

Ch m i l n a m e d i p r i
(English Fr b)

acebrocholum
acebrochol
acebrochol

acetodibromodihydrocholesterol
aceto dibromo dihydro cholesterol

acidum iopanoicum
iopanoic acid
acide iopanique

3-(3 amino 2 4 6-triodophenyl) 2-ethylpropanoic acid
acide (amino-3 triodo-2 4 6 phényl) éthyl
2 propanoïque

amoxecainum
amoxecaine
amoxecaïne

N N triethylethylenediamine *N β*-ethyl
p-aminobenzoate
p-aminobenzoate de *N N* triéthyleéthylènediamine
N β éthyle

aurothioglycanidum
aurothioglycanide
aurothioglycanide

auromercaptoacetanilide
auromercaptoacétanilide

¹ *Wld Hlth Org t h R p S* 1951 35 28 43 30 1952, 50 31
² This series published document WHO/Ph arm/253
³ *Ch Wld Hlth O g* 1952 6 3 2

<i>Inte national non proprietat y name</i> (Latin English French)	<i>Chemical name or description</i> (English French)
benzoestrolum benzoestrol benzoestrol	3-ethyl 2 4 bis(<i>p</i> -hydroxyphenyl)hexane éthyl 3 bis(<i>p</i> -hydroxyphényl) 2 4 hexane
benzpyrinii bromidum benzpyrinium bromide bromure de benzpyrinium	1 benzyl 3 (dimethylcarbamoyloxy)pyridinium bromide bromure de benzyl 1(diméthyl carbamyl oxy) 3 pyridinium
bibrocatholum bibrocathol bibrocathol	bismuth derivative of tetrabromopyrocatechol dérivé bismuthique de tétrabromo pyrocatéchol
camphotamidum camphotamide camphotamide	camphosulfonyl <i>N</i> methylpyridine β diethyl carbonamide β -diéthyl carbonamide de la campho sulfonyl <i>N</i> methyl pyridine
carbromalum carbroma carbroma	α bromo α -ethylbutyrylurea α bromo α éthyl butyryl urée
chlorazodinium chlorazodina chlorazodine	α α azo bis(chloroformamidine) α α azo bis(chloroformamidine)
chlornaphazinum chlornaphazine chlornaphazine	2 2 -dichlorodiethyl β naphthylamine dichloro-2 2 diéthyl β naphthylamine
chlorpromazini chloridum chlorpromazinum chloride chlorure de chlorpromazinum	2-chloro 10-(3 -dimethylaminopropyl) phenothiazinium chloride chlorure de chloro-2 (diméthylamino 3 propyl) 10 phénothiazinium
chloropyraminum chloropyramine chloropyramine	<i>N</i> β dimethylaminoethyl <i>N</i> <i>p</i> -chlorobenzyl 2 aminopyridine <i>N</i> β -diméthylamino éthyl <i>N</i> <i>p</i> -chlorobenzyl amino-2 pyridine
corbadrinum corbadrine corbadrine	1-(3 4-dihydroxyphenyl)2 aminopropanol hydrochloride chlorhydrate de (dihydroxy 3 4 phényl) 1 amino 2 propanol
cyclizini chloridum cyclizinium chloride chlorure de cyclizinium	<i>N</i> -diphenylmethyl <i>N</i> methylpiperazinum dichloride dichlorure de <i>N</i> -diphénylméthyl <i>N</i> méthylpipérazinium
cyclopentaminum cyclopentamine cyclopentamine	<i>N</i> α -dimethylcyclopentylethylamine <i>N</i> α -diméthylcyclopentyl éthylamine

<i>Latin name</i> (Latin English French)	<i>Chemical name</i> (English French)
dextromethorphanum dextromethorphan dextrométhorphane	(+)- 3 methoxy N methylmorphinan (+)- méthoxy 3 N méthylmorphinane
dextrorphanum dextrorphan dextrorphane	(+)- 3 hydroxy N methylmorphinan (+)- hydroxy 3 N méthylmorphinane
dibemethinum dibemethine dibéméthine	dibenzylmethylanine dibenzyl méthylanine
dimenhydrinatum dimenhydrinate diménhydrinate	2-(diphenylmethoxy)N N dimethylethylammonium 8-chlorotheophyllinate chloro 8 théophyllinate de (diphenylméthoxy)-2 N N diméthyl éthylammonium
dimoxylum phosphas dimoxylum phosphate phosphate de dimoxylum	6 7 dimethoxy 1 (4 ethoxy 3 methoxybenzyl) 3 methylisoquinolinium phosphate phosphate de diméthoxy 6 7 (éthoxy-4 méthoxy 3 benzyl) 1 méthyl 3 isoquinoléinium
diphenanum diphenan diphenane	4 benzylphenyl carbamate carbamate de benzyl-4 phényle
diperodon hydrochloridum diperodon hydrochloride chlorhydrate de dipérodon	3 (1 piperidyl) 1 2 propanediol dicarbamate hydrochloride chlorhydrate du dicarbamate de (pipéridyl 1)-3 propanediol 1 2
dixanthogenum dixanthogen dixanthogène	diethyldixanthogen diéthyl dixanthogène
furostilboestrolum furostilboestrol furostilboestrol	diethylstilboestrol furate furate de diéthylstilboestrol
furfurethonium iodidum furfurethonium iodide iodure de furfréthonium	furfuryltrimethylammonium iodide iodure de furfuryltriméthylammonium
glucosulfamidum glucosulfamide glucosulfamide	glucose sodium bisulfite compound of sulfanilamidomethanol dérivé glucosé bisulfité sodique de sulfanilamido méthanol
glycobiasolum glycobiasol glycobiasol	bismuthyl 4 N glycoloylaminophenyl arsenate N glycoloylamino-4 phényl arsinate de bismuthyl

<i>Internat. nomenclature</i> (Latin English French)	<i>Chemical name or description</i> (English French)
homatropini methylbromidum homatropine methylbromide méthylbromure d'homatropine	
hydralazinum hydralazine hydralazine	1 hydrazinophthalazine hydrazino 1 phthalazine
hydrocortisonum hydrocortisone hydrocortisone	17 hydroxycorticosterone hydroxy 17 corticostérone
hydroxyprocainum hydroxyprocaine hydroxyprocaine	diethylaminoethanol 4-aminosalicylate amino-4 salicylate de diéthylamino éthanol
hydroxytetracainum hydroxytetracaine hydroxytétracaine	2 dimethylaminoethanol 4 n butylamino-salicylate n butylamino-4 salicylate de diméthylamino-2 éthanol
ibrotamidum ibrotamide ibrotamide	ethylisopropyl- α bromacetamide éthyl isopropyl α bromacétamide
intermedinum intermediate intermédiaire	active principle of the <i>pars intermedia</i> of the pituitary principe actif du lobe intermédiaire d'hypophyse
iproniazidum iproniazid iproniazide	1 isonicotinyl 2 isopropylhydrazide isonicotinyl 1 isopropyl 2 hydrazide
levarterenolum levarterenol lévartérénoï	(-) α 3 4 dihydroxyphenyl β aminoethanol (-) α -dihydroxy 3 4 phényl β amino éthanol
levomethorphanum levomethorphan lévométhorphane	(-) 3 methoxy Δ methylmorphinan (-) méthoxy 3 Δ méthylmorphinane
levorphanum levorphan lévorphane	(-) 3 hydroxy Δ methylmorphinan (-) hydroxy 3 Δ méthylmorphinane
mannitoli hexanitras mannitol hexanitrate hexanitrate de mannitol	
menadioli natri sulfas menadiol sodium sulfate sulfate sodique de ménadiol	2 methyl 1 4 naphthoquinol disodium sulfate sulfate disodique de méthyl 2 naphthoquinol 1 4

mercaptaminum
mercaptamine
mercaptamine

β mercaptoethylamine
 β mercaptoéthylamine

mercurobutolum
mercurobutol
mercurobutol

4 *tert* butyl 2-chloromercuriphenol
tert butyl-4 chloromercuri 2 phenol

metaraminoli bitartras
metaraminol bitartrate
bitartrate de metaraminol

(-) 1 *m* hydroxy 2 amino 1 propanol hydrogen
(+) tartrate
(+) tartrate monobasique de (-) *m* hydroxy 1
amino 2 propanol 1

metharbitalum
metharbitol
métharbitol

5 5 diethyl 1 methyl barbituric acid
acide diéthyl 5 5 methyl 1 barbiturique

methenaminii tetraiodidum
methenaminium tetraiodide
tetraiodure de méthénaminium

hexamethylenetetraminium tetraiodide
tétraiodure d hexaméthylène tetraminium

methylbenzethonii chloridum
methylbenzethonium chloride
chlorure de methylbenzethonium

benzylidimethyl 2 [2-(*p*-1 1 3 3 tetramethylbutyl
cresoxy)ethoxy] ethylammonium chloride
chlorure de benzylidimethyl [(*p*-tétraméthyl 1 1 3 3
butylcresoxy) 2 ethoxy] 2 éthylammonium

methylrosanilini chloridum
methylrosanilinium chloridum
chlorure de methylrosanilinium

crystal violet
violet cristallisé

nalorphinum
nalorphine
nalorphine

N allylnormorphine
N allylnormorphine

natru ascorbas
sodium ascorbate
ascorbate de sodium

natru dehydrocholas
sodium dehydrocholate
dehydrocholate de sodium

natru morrhuas
sodium morrhuate
morrhuate de sodium

the sodium salts of the fatty acids of cod liver oil
les sels sodiques des acides gras de l huile de foie de
morue

natru tetradecylis sulfas
sodium tetradecyl sulfate
sulfate tétradecyl de sodium

sodium 7-ethyl 2 methylundecyl-4 sulfate
éthyl 7 méthyl 2 undecyl sulfate-4 de sodium

Its official nomenclature
(Latin, English, French)

Chemical name or description
(English, French)

nitrosulfithiazolum
nitrosulfathiazole
nitrosulfathiazol

2-(*p*-nitrophenylsulfonamido) thiazole
(*p*-nitrophenylsulfamido) 2 thiazol

octan-3-aminum
octamylamine
octamylamine

octylaminomethylheptane
amylamino méthyl heptane

oxydipentonii chloridum
oxydipentonium chloride
chlorure d'oxydipentonium

5,5'-bis (trimethylammonium) dipentyl ether dihydro-
chlorure de l'éther dipentyl bis (triméthylammonium)-5,5

oxyphenonii bromidum
oxyphenonium bromide
bromure d'oxyphénonium

diethyl-(2-hydroxyethyl) methylammonium bromide
α-phenyl-α-cyclohexylglycolate
α-phényl-α-cyclohexyl glycolate du bromure du
diéthyl (hydroxy 2-éthyl) méthyl ammonium

oxytetracyclinum
oxytetracycline
oxytétracycline

an antibiotics substance obtained from *Streptomyces*
rimosus (terramycin)
une substance antibiotique produite par *Streptomyces*
rimosus (terramycine)

paroxypropionum
paroxypropione
paroxypropione

4-hydroxypropio-phenone
hydroxy-4 propiophénone

parethoxyeanum
parethoxyeane
paréthoxyéane

diethylaminoethanol 4-ethoxybenzoate
éthoxy-4 benzoate de diéthylaminoéthanol

pentaerithrityl tetranitras
pentaerithrityl tetranitrate
tetranitrate de pentaéritrityle

phenylacetylurea
phényl acétyl urée

phenacemidum
phenacemide
phénacémide

sodium 3-amino-4-hydroxyphenylarsonate & methanal
sulfurylate
amino-3-hydroxy-4-phénylarsonate & méthanal sulf
urylate de sodium

phenarsoni sulfoxylas
phenarson sulfurylate
sulfoxylate de phénarson

α,β-dimethylphenethylamine
α,β-diméthyl phénéthylamine

phenpromethaminum
phenpromethamine
phénprométhamine

phentolaminum
phentolamine
phéntolamine

2-(*m*-hydroxy-4-*p*-tolylanilino)methyl-2-imidazoline
(*m*-hydroxy-4-*p*-tolylanilino) méthyl-2-imidazoline 2

phenylbutazonum
phenylbutazone
phénylbutazon-

3,5-dioxo-1,2-diphenyl-4-*n*-butylpyrazolidine
dioxo-3,5-diphényl-1,2-*n*-butyl-4-pyrazolidine

<i>Latin name</i> (Latin English French)	<i>Chemical name</i> (English French)
phytomenadionum phytomenadione phytomenadione	2 methyl 3 phytyl 1 4 naphthoquinone (vitamin K ₁) méthyl 2 phytyl 3 naphthoquinone 1 4 (vitamine K ₁)
piperoxani hydrochloridum piperoxan hydrochloride chlorhydrate de pipéroxane	2 (1 piperidylmethyl) 1 4 benzodioxan hydrochloride chlorhydrate de (piperidylmethyl 1)-2 benzo- dioxane 1 4
pidocainum pidocaine pidocaine	β (2 piperidyl) ethyl <i>o</i> -aminobenzoate <i>o</i> -aminobenzoate du β -(piperidyl 2) éthyle
primaquimum primaquine primaquine	8 (4 amino 1 methylbutylamino) 6-methoxyquinoline (amino-4 méthyl 1 butylamino) 8 méthoxy 6 quino- line
probarbitalum natrium probarbital sodium probarbital sodique	sodium derivative of 5-ethyl 5 isopropyl barbituric acid dérivé sodique de l'acide éthyl 5 isopropyl 5 barbitu- rique
procainamidum procainamide procaïnamide	4 amino-(2-diethylaminoethyl) benzamide amino-4 (diéthyl 2 aminoéthyl) benzamide
propylodonum ⁴ propylodone propylodone	propyl 3 5-diiodo-4 pyridone acetate acétate de propyl diiodo 3 5 pyridone-4
pyroxylinum pyroxylin pyroxyline	soluble guncotton fulmicoton
racemethorphanum racemethorphan racémethorphane	(\pm) 3 methoxy <i>N</i> methylmorphinan (\pm) méthoxy 3 <i>N</i> méthylmorphinane
racemorphanium racemorphane racémorphane	(\pm) 3 hydroxy <i>N</i> methylmorphinan (\pm) hydroxy 3 <i>N</i> méthylmorphinane
salicylamidum salicylamide salicylamide	2 hydroxybenzamide hydroxy 2 benzamide
subathizonum subathizone subathizone	4-ethylsulfonylbenzaldehyde thiosemicarbazone thiosemicarbazone d'éthylsulfonyl-4 benzaldehyde

<i>International non-proprietary name</i> (Latin English French)	<i>Chemical name or description</i> (English French)
sulfamethizolum sulfamethizole sulfaméthizol	5 sulfanilamido-2 methyl 1 3 4 thiodiazole sulfanilamido 5 méthyl 2 thiodiazol 1 3 4
sulfisomidinum sulfisomidine sulfisomidine	2 4 dimethyl 6-sulfanilamidopyrimidine diméthyl 2 4 sulfanilamido 6 pyrimidine
suxamethonii chloridum suxamethonium chloride chlorure de suxaméthonium	bis (2 dimethylaminoethyl) succinate bismethochloride diméthochlorure de succinate de bis (diméthylamino 2 éthyle)
suxethonii chloridum suxethonium chloride chlorure de suxéthonium	bis (2-dimethylaminoethyl) succinate bisethochloride diéthochlorure de succinate de bis (diméthylamino-2 éthyle)
thiacetarsamidum natrium thiacetarsamide sodium thiacétarsamide sodique	disodium salt of <i>p</i> -[bis-(carboxymethyl mercapto) arsinol] benzamide sel disodique de <i>p</i> -[bis-(carboxy méthyl mercapto) arsinol] benzamide
thiodiglyeolum thiodiglyeol thiodiglycol	2 2 -dihydroxyethyl sulfide sulfure de dihydroxyéthyle 2 2
tocamphylum tocamphyl tocamphyl	diethanolamine salt of tolylmethyl carbinol mono D camphoric acid ester sel de diéthanolamine de l'ester mono D-camphorique de tolylméthyl carbinol
tuaminoheptanum tuaminoheptane tuaminoheptane	1 methylhexylamine méthyl 1 hexylamine
urethanum ^a urethane uréthane	ethyl carbamate carbamate d'éthyle

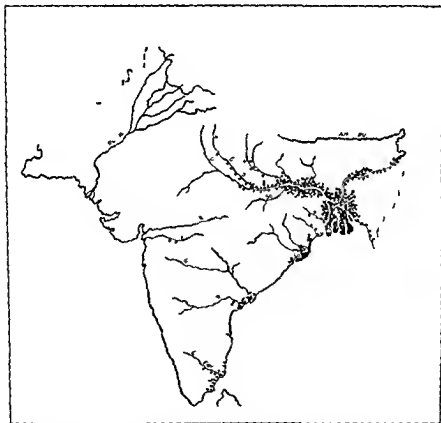
^a Replaces "ethylurethanum" which appeared in a previous list (U. S. H. H. O. g. techn. Rep. Ser. 1951: 35: 29)

Review of WHO Publications

CHOLERA INCIDENCE AND ENDEMICITY

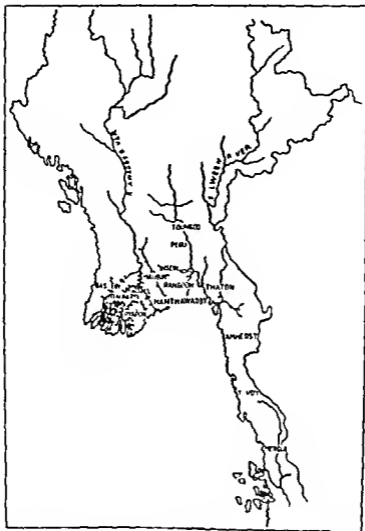
No clear-cut definition of the term endemicity as it applies to cholera is yet available but for practical purposes areas in which the disease continues to persist and in which it may or may not at times assume epidemic proportions may be considered endemic. Contrary to what might be expected however it is not usually possible in such endemic areas to trace the spread of the infection from person to person.

FIG 1 CHOLERA ENDEMICITY LEVEL IN INDIA AND PAKISTAN 1901-45



The endemicity level is shown in relation to the life system by variations in the density of the dots. This is related to the average annual cholera death rate during the fifteen years of lowest prevalence in the period 1901-45.

FIG 2 CHOLERA ENDEMICITY LEVEL IN BURMA 1918-33



The endemicity level is shown in relation to the river system by variations in the density of the dots. This level is expressed by the average annual cholera death rate during the seven years of lowest prevalence in the period 1918-33.

all that can be established particularly during the inter-epidemic periods, is a persistent occurrence of cholera cases and deaths. Since a study of case relationship is not feasible the question of persistence of cholera may be approached by analysing figures for incidence and mortality for many years. If the periods of freedom from infection are frequent and of long duration, then the area under consideration may be classed as non-endemic. On the other hand the presence of cholera cases and deaths throughout the period under review would indicate a persistence of the infection and a certain degree of endemicity.

The results of a study of this type have been published in a recent number of the *Epidemiological and Vital Statistics Report*¹ Dr S Swaroop Chief of the WHO Statistical Studies Section has with the assistance of Dr R Pollitzer, analysed figures showing cholera incidence in several countries for a varying number of years in order to follow the trend of the infection and to study the distribution of endemic foci. The statistics reveal that countries in Africa Europe and America which formerly suffered cholera outbreaks are now usually free from this disease and that apart from an epidemic in Egypt in 1947 cholera has not appeared outside Asia since 1930. Even within Asia some countries in the east such as Japan and the Philippines have remained free or almost free from cholera in recent times until refugee movements following the second World War led to reappearance of the disease in certain localities.

Despite a progressive reduction in cholera infected areas during the past half century apparently endemic foci continue to exist in some delta regions particularly those around the Bay of Bengal. Fig. 1 and 2 show the location of these foci of infection but it should be noted that they indicate only the regions within which endemic foci are supposed to exist. The exact location of such foci would have to be determined by a detailed analysis of cholera statistics for smaller population units than those for which data are at present available.

On the basis of this study it may be concluded that all supposedly cholera-endemic foci are (1) adjacent to rivers thus indicating a close relationship of cholera endemicity to surface water systems (2) situated in low lying areas not more than 100 feet (30 metres) above sea level and (3) located in densely populated regions.

Epidemiol. and Vital Statistics Report 1952 5 369

CAUSES OF DEATH IN EUROPE AND IN SOME NON EUROPEAN COUNTRIES

The most recent statistical information available for a considerable number of countries on causes of death classified by age and by sex has been published in the *Epidemiological and Vital Statistics Report*². This Report is interesting for several reasons.

First it gives data collected from five continents. Whereas the mortality figures previously published were either for Europe³ or for non European

Epidemiol. and Vital Statistics Report 1952 5 371

Ch. n. H. Id III h O g 1949 3 12 1950 4 349 1951 5 239

countries, the present compilation includes statistical data from every part of the world

Secondly, the statistics refer, depending on the country, to the years from 1947 and 1951, the most complete information being that for 1950. This indicates how rapidly these data are analysed by national statistical offices and transmitted by Member States to WHO to be made available to interested administrations and investigators.

Thirdly, publication of this up to date information makes possible now and in the years to come an evaluation of the results of campaigns undertaken against communicable diseases in various parts of the world of the extent to which mortality from each of the principal diseases has dropped and of the benefits to a country of preventive and social hygiene measures and of early case finding of communicable diseases—the effects of which are reflected particularly in a lowering of the mortality rate among infants and children. The analysis of the information by sex also adds to the value of these data. In fact as the authors of this publication state statistics presented in this way may be considered as a 'barometer of public health conditions'.

Fourth, the advantages which public health administrations may draw from the study of these statistics may encourage the various States to supply more complete and more recent data. Already as the authors point out, the ever increasing number of recent series which it has been possible to publish demonstrates the interest of the various countries in this type of information.

The publication of these statistics for the most recent years for which they are available—grouped in 59 tables—is of particular interest because some of the mortality statistics presented are already based on the sixth (1948) revision of the International Lists of Diseases and Causes of Death, as given in the *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*³. They are grouped according to the 'Abbreviated List of 50 Causes for Tabulation of Mortality' contained in the Manual⁴. The 1949 figures for two countries were based on this List, and 16 other countries used it for the first time in publishing their mortality statistics for 1950.

In presenting the statistics based on the 1948 International Statistical Classification of Diseases, Injuries, and Causes of Death the authors recommend caution in interpreting time trends in mortality by disease. Apart from the changes in the content of the categories there are also other factors to be considered which affect the comparability of the mortality figures based on the fifth and sixth revisions of the International Lists.

World Health Organization (1946) *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death* (Geneva).
³ See p. 361 of the Manual.

The Manual contains certain rules for the selection of the underlying cause of death so that mortality statistics may be based on uniform criteria replacing those in common use in different countries and varying accordingly. The International Form of Medical Certificate of Cause of Death which was adopted with the lists given in the Manual aims with eventual statistical classification in mind to aid physicians in correctly indicating the underlying cause of death and the morbid conditions which contributed to the fatal outcome.

The changes in classification and the application of new rules for the selection of the underlying cause of death have caused a break in the comparability of statistics relative to certain causes of death from one year to another. Those headings the contents of which have been either expanded or curtailed are the most affected. Thus the heading "Scarlet fever" in the 1938 abridged list has become in the 1948 Abbreviated List "Scarlet fever and streptococcal sore throat". "Nephritis" has become "Nephritis and nephrosis" and "Syphilis" has become "Syphilis and its sequelae". Diseases of infants less than four weeks old even when specifically diagnosed come under a new heading "Infections of the newborn" which reduces the number of entries under "Pneumonia" and "Gastritis duodenitis enteritis and colitis except diarrhoea of the newborn".

The influence of the new rules for the classification of causes of death is particularly evident in the case of diabetes. When for example it was decided in Canada and the USA that the choice of cause of death would rest with the physician issuing the certificate and would no longer be made according to rules in practice up to that time, the figures for deaths from diabetes dropped by 45% for 1949 in Canada and by 43% for 1949-50 in the USA.⁵

The apparent variations due to the changes described above and reflected in the comparative figures for deaths from certain causes are clearly shown in the tables published in the present study particularly in those which illustrate the result of a double classification of certain causes of death according to the abridged lists of 1938 and of 1948. Although these changes involve a break in the statistical continuity of certain data, the gradual adoption of the new International Statistical Classification of Diseases, Injuries and Causes of Death by an increasing number of countries will in the future make death rates for various causes in different countries more comparable. The information published in this report which must be interpreted with a certain amount of reserve in view of the foregoing will serve as a basis for comparison of statistics in years to come when the figures from an ever increasing number of countries will be based on uniform criteria.

⁵ World Health Organization (1952) Comparative Statistics of Deaths from Diabetes Mellitus, 1949-50, p. 11.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Industrial Psychiatry in the USA

Dr Erland Mindus consulting physician to the Institute of Applied Psychology, University of Stockholm visited Canada Great Britain and the USA on a WHO fellowship to study industrial psychiatry in these three countries. There follows a brief summary of some of his observations on the USA.

Psychiatrists were employed in industry in the USA as early as 1916. During the second World War an increasing number of psychiatrists were used by industry to aid in solving the adjustment problems of disabled employees. Such services were abandoned after the war.

At the moment the number of industrial psychiatric projects is small but interest in such projects or at least in efforts to improve human relations is gaining ground. Both management and labour are to some extent aware of the fact that at least one third of all sickness absenteeism in industry is caused by emotional disturbances.

There is still much need of clarification of what the contributions of psychiatrists to industry can be. Generally the major psychoses are not a great problem in industry and the minor psychiatric difficulties are usually handled by psychologists, social workers, nurses, industrial medical officers or even lay persons who seem to have a knack for this type of work. Many industrial grievance discussions which are rooted in emotional problems are not recognized as such and are "solved" by firing the employees concerned.

Projects in industrial psychiatry range from slight psychiatric first aid by plant medical departments to actual psychiatric counselling in the form of assistance in policy determination at a top level—which is essentially preventive psychiatry. In the latter case an attempt is made to find out which managers might be called "stress producers" and what points in the organization are apt to cause emotional tensions.

The psychotherapy given in industry is mostly short term aiming to give emotional release and a better understanding of the problems involved. Leave of absence for emotional reasons is not frequent. It is generally thought that neurotics do much better when they continue working. In instances in which neurotics with compulsory drives or much aggressiveness are a particular problem because they act in a supervisory capacity and are a source of disturbance to the employees under their command therapy of the employee or employees concerned is sometimes followed by similar treatment of the supervisor. Changing the placement of the employee is usually avoided since the long term results of such a procedure are not satisfactory.

A valuable by-product of psychiatric services in industry is that other company doctors and nurses may through the efforts of the psychiatrist learn to handle a great number of emotional problems.

An interesting development in the USA is the utilization of the services of commercial psychological firms in which consulting psychologists give advice to top management only sometimes beginning with a psychological evaluation of the chief executive to determine what kind of personality he has and how this is reflected in the management of the firm.

A new field which has been opened in recent years is the treatment of alcoholics. The Yale University centre for alcoholic studies gives a figure of two million hidden cases of alcoholism in industry. During the past four years an increasing number of industries have with the co-operation of medical officers, psychiatrists and various community agencies started treatment programmes to combat alcoholism.

The position of the psychiatrist in the industrial organization is not uniform. He is most commonly on the staff of the medical department and reports to the medical director and through him to the personnel division; in some cases however the psychiatrist is a member of the personnel division or directly under one of the vice presidents.

Dr Mindus feels that at present the industrial psychiatrists do not engage very much in formal training of personnel and that they do not exert a very great direct influence on management policies. Contacts between the psychiatrists and the labour unions seem to be very few. It is perhaps just chance but most of the work of the industrial psychiatrists is devoted to white-collar workers.

A training programme for industrial psychiatrists was started a few years ago at Cornell University. The aim of the training is to enable the psychiatrist to eliminate conditions in the work environment that aggravate internal conflict within individuals and block co-operative effort.

While special research in occupational psychiatry is extremely scarce there are many psychiatric studies being conducted which will later be of importance for this particular subject. Dr Mindus was impressed by the trend to combine in such research the work of anthropologists, sociologists, psychologists, psychiatrists and even epidemiologists.

Notes and News

Conferences in Eastern Mediterranean Region

Tuberculosis

In late November 1952 WHO tuberculosis staff from five of the six WHO Regions—the Americas, the Eastern Mediterranean, Europe, South-East Asia and the Western Pacific—met at Alexandria to discuss WHO assisted anti-tuberculosis campaigns. This group which was under the chairmanship of Dr J Holm, Chief of the Tuberculosis Section Headquarters, emphasized the need to integrate tuberculosis-control programmes with other public health work and recommended that surveys to determine the prevalence of tuberculosis should be combined when feasible with surveys of other communicable diseases. The role of public health education in the control of infectious diseases was stressed and methods of establishing and administering tuberculosis demonstration centres and of conducting BCG vaccination campaigns were discussed.

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FIG 3 PALESTINE REFUGEES — I



Mothers learn to bathe their babies at one of the maternal and child health centres provided to the refugees



FIG 4 PALESTINE REFUGEES — II

This refugee child has come with an improvised pail to seek his ration of the food provided by UNICEF

Mental health

A meeting to plan a seminar on mental health to be held in the Eastern Mediterranean Region in 1953 took place at Alexandria in early December 1952. Specialists from Egypt, Iraq, Lebanon, Sudan and Syria met under the chairmanship of a WHO consultant on mental health, Professor G. Kraus, psychiatrist at the University Clinic, Groningen, the Netherlands. The members of the group revealed that mental health services are very little developed or not yet started in the countries of the Eastern Mediterranean Region. They emphasized the need for increased numbers of trained personnel for mental health work and suggested that methods for training such personnel be one of the topics of discussion at the projected seminar. Other topics suggested were the creation and organization of psychiatric treatment on both an in-patient and an out-patient basis and the problem of drug addiction, particularly addiction to hashish.

Tuberculosis Control in India

A report on the WHO/UNICEF BCG vaccination campaign in India, which continues work begun by the International Tuberculosis Campaign, gives the following cumulative totals as of the end of October 1952:

<i>Period</i>	<i>Tuberc. In tested</i>	<i>Vaccinated</i>
Up to 30-6-51 (International Tuberculosis Campaign)	4 129 570	1 372 029
1-7-51 to 31-10-52	7 435 814	2 314 163
Total	11 565 384	3 686 192

Health Conditions among Palestine Refugees

For the past four years WHO has planned and carried out the health programme of the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWAPRNE) which cares for more than 850 000 people. A recent report to the Organization states that the health conditions of the refugees during 1952 were good. No cases of plague, cholera, smallpox, yellow fever, or typhus were reported; there were a few cases of endemic typhus fever and several of tick-borne relapsing fever. Trachoma continues to be prevalent, but control measures have been undertaken. Tuberculosis is as much a problem among the refugees as it is among the people of the host countries, and there is need for further control efforts. The fight against malaria has met with considerable success: the Jordan Valley, which was previously almost uninhabitable because of this disease, now harbours 90 000 refugees; a downward trend in the incidence of malaria has also been reported in other areas in which refugees live.

A WHO/FAO nutrition survey revealed that there is relatively little malnutrition among the refugee children. Further assessments now being conducted among patients attending clinics have shown that less than 4% of the 60 000 persons examined each month display signs of nutritional deficiency.

Improvement of sanitary facilities is attested to by an absence of epidemics of filth-borne diseases.

There are 79 UNRWAPRNE-operated clinics and almost 2 000 hospital beds available for the refugees. The Agency has an annual health budget of \$2 000 000 and employs about 2 000 health workers. Voluntary agencies and the host governments also collaborate in the health care of the refugees.

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M H HOLSTEIN

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Biological Standardization

Replacements of two international biological standards have been established the Third International Standard for Insulin and the Second International Standard for Penicillin¹ International biological standards have now been established for *Brucella abortus* Antiserum (for diagnostic purposes) for Scarlet Fever Streptococcus Antitoxin and for Dimercaprol

The WHO Expert Committee on Biological Standardization has decided that it will not undertake replacement of the current international standard for Vitamin A (pure vitamin A acetate) the stock of which will probably be depleted by about the end of 1953 This material which is being widely distributed from the Department of Biological Standards of the National Institute for Medical Research London is apparently being used at the present time almost entirely for the calibration of spectrophotometric instruments rather than as a standard in biological assays The committee feels that it is no longer the appropriate body to carry the responsibility for the distribution of this standard or of any other of the international biological standards which can be clearly characterized by their chemical and physical properties A proposal is therefore under consideration that the responsibility for collecting maintaining and distributing all such "authentic chemical substances" should be transferred to the Expert Committee on the International Pharmacopoeia

¹ Articles on these two standards will appear in forthcoming numbers of the *Bulletin of the World Health Organization*

CORRIGENDUM

1952, Vol 6, No 10 (October) p 301 4th line from bottom

Delete "The most rapid test serum"

Insert "It was known that by means of the slide modification of the Meinicke reaction it was possible to give the results of a single blood sample within 45 to 60 minutes after it had been collected The Meinicke test is performed on active serum and with the slide modification only a small drop of serum is required When that drop of serum is available the result of the test can be read after about 25 minutes"



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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MATERNAL CARE AND MENTAL HEALTH

by

JOHN BOWLBY

Consultant in Mental Health World Health Organization
Director Child Guidance Department Tavistock Clinic London

The quality of parental care which a child receives in his earliest years is now recognized as of vital importance for his future mental health. Direct retrospective, and follow up studies have revealed the extensive and harmful consequences often irremediable, upon the child's development of depriving him of maternal care. Since this situation is injurious to the mental and social welfare of the whole community attempts to prevent it must be made. But how can maternal deprivation be prevented? There is no truer maxim than there's no place like home and even bad homes are often better than good institutions. The task first and foremost is to improve care not outside the home but inside it. The problem of child welfare is not isolated but inextricably mixed with that of family care and mental health in general for neglected children frequently become neglectful parents.

In this aspect of mental health the twentieth century offers an opportunity for equalling the nineteenth-century achievements in public and physical health. Once it is universally recognized that mental development is as important to the child as physical development the paramount importance to the community of the role of the mental health worker will be realized.

These are the conclusions of a report on the mental health aspects of the problem of homeless children prepared by Dr Bowlby on behalf of the World Health Organization as a contribution to the United Nations programme for the welfare of homeless children. In his capacity as consultant to WHO the author visited France the Netherlands Sweden, Switzerland the United Kingdom and the United States of America holding discussions with child care and child guidance workers seeing their work and studying the literature.

All concerned with the welfare of homeless children — whether psychiatrists social workers or individuals with their own problems to solve — will find this comprehensive study based both on the literature and on personal experience and contacts of vital interest.

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CONFERENCE ON ENDEMIC GOITRE

John B. STANBURY M.D.

Massachusetts General Hospital Boston Mass USA

A conference for the consideration of various aspects of endemic goitre was sponsored by WHO in December 1952 when a study group of physicians and other interested persons¹ met at the National Institute for Medical Research Mill Hill London. The objectives of this conference were to define the magnitude of the problem from the public health point of view to set down clearly what is known and what is not known of the disease and its prevention and to delineate profitable areas of future inquiry. The details of the deliberations will be made available in another WHO publication. This summary report has been prepared to acquaint the general reader with the findings of the study group and particularly to point out the considerable gaps in our present knowledge.

Public Health Aspects of Endemic Goitre

Endemic goitre is primarily a problem of the economically underdeveloped areas of the world. Although it is one of the easiest of all diseases to prevent it continues to be a major public health concern where ignorance, lack of interest or appreciation or economic difficulties have prevented the application of simple prophylactic techniques. The prevalence of the disease is rarely realized until a careful survey has been made. A true goitre map of the world cannot therefore be drawn with certainty but the principal zones of high endemicity are known (see fig. 1). It was not within the scope of the conference to discuss the problem in each individual endemic area but it was possible to consider certain specific areas in detail.

In India the entire northern portion of the subcontinent is an area of intense endemicity. The goitre belt extends across northern India from

Participants in the conference listed

D. L. E. Campbell, Nutrition, D. is Food, d. Agric. It. re. O. gan. za. o. Rom. It. ly. D. F. W. Cl. m. t. Sect. f. Soc. I. Paed. tics. U. rs. y. of. Syd. y. A. tral. (Ch. rm.) D. J. C. M. Holm. Ch. l. n. lod. Ed. ca. nal. B. re. Lo. do. Great. Brit. D. F. C. K. lly. Ch. l. I. dun. Ed. ca. to. al. B. re. Lo. don. Gre. t. Bri. a. D. O. P. Kumball. Doctors. Clin. Cl. I. nd. Oh. o. USA. D. J. M. tovi. Zagr. d. I. m. Kl. k. R. b. Y. gos. i. a. P. f. M. g. ret. M. rr. y. B. d. f. d. Coll. g. U. rs. ty. f. Lo. do. G. t. Brita. Professe. J. L. Nicod. Inst. t. d. a. m. e. p. th. i. g. que. La. sa. Sw. tzerl. d. D. E. E. Pochm. Una. rs. ty. C. ll. g. Hosp. i. M. d. i. S. hool. L. d. Gre. t. Bri. D. A. Q. rd. U. rs. ty. H. p. tal. L. yd. N. th. r. d. d. D. U. R. m. i. gas. m. e. Nutrition. Res. earch. Laborat. ries. Ind. an. C. nel. f. Med. a. l. Res. ch. Coo. oor. f. d. D. H. S. la. Laboratory. f. H. m. N. n. tu. U. rs. ty. of. O. f. d. Gre. t. Bri. in. D. H. H. St. pool. C. mp. n. ci. nal. t. i. Bocu. Secretari. d. Sal. brid. d. y. A. en. M. i. co. City. M. i. co. D. J. B. St. b. y. Massachus. tt. G. neral. Hospital. Bosto. Mas. USA. M. S. J. yl. F. R. C. S. P. l. g. d. t. M. d. i. School. f. Lo. d. G. eat. Bri. m. D. B. T. T. w. ry. Dep. t. me. t. of. Medicine. V. d. b. h. U. rs. y. Nash. all. T. n. USA. WHO. Secretariat. D. R. B. rges. d. D. S. G. ld.

SCHEDULE OF MEETINGS

9 April - 1 May	Travelling Study Group School Health Services Denmark and the Netherlands
10-18 April	Conference on Health Education London
13-19 April	Pan Pacific Tuberculosis Conference (Philippine Department of Health/WHO Philippine Tuberculosis Society) Manila
23-24 April	Ad Hoc Committee on Sanitary Engineers' Seminar Geneva
1-2 May	Joint Committee on Health Policy UNICEF/WHO Geneva
5 May	Sixth World Health Assembly Geneva

FIG 1 PRINCIPAL ZONES OF HIGH ENDEMICITY OF GOITRE



Rep od d th gh t y of the Chil tod Ed it I B Lond

Endemic goitre exists in several areas of New Guinea and Australia. Studies on the efficacy of iodine in reducing the size of established goitre resulted in a reduction of only 20% in goitrous children below the age of 12 and in no change at all in females between 15 and 18 years of age. It may therefore be concluded that the effect of iodine is primarily preventive. Intensive surveys in Tasmania have failed to disclose dietary differences between goitrous and non goitrous regions. In general routine prophylaxis with iodide has been entirely successful but in two areas of Tasmania no change in goitre incidence occurred. No reason for this was apparent.

Goitre Surveys

The lack of uniformity in survey work has hampered progress in the prevention of endemic goitre and has retarded knowledge of the extent of the disease. While there can be no doubt that a moderate increase in thyroid size may occur without visible enlargement of the gland for the purposes of survey work and for assessing the intensity of an endemic, the smallest goitre which should be reported as abnormal should be one which is detectable by inspection. The presence of nodules affords further evidence of the existence of endemic goitre. In conducting a survey line drawings, diagrams or pictures for the members of the survey teams are most helpful in gaining uniformity in classification. The single most important datum is the incidence of visible enlargement of the thyroid gland. In areas of low endemicity the most sensitive index of thyroidal enlargement is found by studying adolescent females; in a more intense endemic, adolescent males will also

Kashmir to Assam where in certain areas nearly 70% of the population may be affected and even 60% of infants at the breast may have definitely enlarged thyroid glands. The incidence has changed but little since early years of the present century when Sir Robert McCarrison made careful studies. A declining interest in the Indian endemia is illustrated by the fact that very few articles in Indian medical literature have dealt with this problem during the past few years.

The results of many studies in the USA have shown the efficacy of iodide prophylaxis and there have been several interesting situations in which the substitution of a highly refined salt for crude salt precipitated endemias of goitre. The salutary effects of iodide prophylaxis have been particularly apparent in Michigan, where compulsory iodization of salt has been coupled with painstaking survey work.

The first goitre map of Switzerland was drawn in 1893, when the highest prevalence was in the cantons of Fribourg and Berne. The prevalence diminished in the eastern part of the country, but during more recent years there has been a tendency towards an eastward shift. In earlier years goitre prophylaxis was attempted by the simple expedients of wearing an iodine impregnated wooden pendant around the neck or by placing a few drops of a solution of iodine in a saucer in the schoolroom or bedchamber. These measures were allegedly effective. The introduction of the iodization of salt has resulted in a gratifying decrease in the incidence of goitre in the country as a whole with a consequent decrease in the attendant disabilities. Nodules of the thyroid are now rarely found in male patients below the age of 40 whereas they were previously common in this age group. (Iodide prophylaxis has been in vogue since anyone in this age group was an adolescent.) Iodine induced hyperthyroidism has not been encountered as a result of iodide prophylaxis.

In nine states of Mexico with a combined population of approximately 13 000 000 the incidence of goitre is 19%. In goitrous areas cretinism is common and there is a high prevalence of deaf mutism and mental deficiency. In the past ten years there has been a population increase of 14% in non goitrous areas but of only 5.4% in goitrous areas. All prophylactic techniques which have been tried have been successful. The problem is one of extending these techniques to the whole population. At present there are facilities for iodizing only about 35% of the salt requirements of the country.

Goitre is exceedingly common in Yugoslavia where it exists in a wide belt running diagonally along the length of the country. The disease is most prevalent in Bosnia and Slovenia. Some areas of the country are so goitrous that a residence of only six months is sufficient for the development of visible thyroidal enlargement. Prophylaxis was begun in 1923, when 6% of army recruits were found to be goitrous. Much of the salt is produced crudely by evaporation in pans. Iodization of salt is now required by governmental decree.

better developed areas of the world where it is distributed in a dry state and where mass methods of production are used. In other countries programmes of iodization have encountered major difficulties. For example in India and in Mexico a large proportion of the salt is produced by evaporation in pans and is distributed without further refinement. Iodization must be done by hand, a laborious process at best. In other areas of the world crude salt is simply scraped from the surface of salt flats and distributed without further refinement. In still other places climatic conditions are such that salt treated with an iodide tends to lose much of its iodine content.

Large quantities of salt can be iodized with extremely simple apparatus. One inexpensive device was demonstrated to the study group. It consisted of a worm-conveyor which moved salt from a hopper along a trough into a receptacle. The iodide or iodate was added in the dry state to the trough by gravity through a precision feeder. One such machine could supply the salt needs of several hundred thousand people.

Stability of iodine in salt

The stability of iodized salt depends upon the following: (1) moisture content of the salt and humidity of the atmosphere; (2) light, heat and other meteorological factors; (3) impurities in the salt; (4) the reaction of the mixture; and (5) the form in which the iodine is present.

In the case of iodides, moisture is probably the most important variable. It not only causes a loss of iodide from the salt, but also a redistribution of it within the container. Thus, if the salt is damp, higher concentrations of iodide are found in the bottom and in the top of the sack, whereas the middle section may be relatively free of iodide. A very considerable collection of iodide may be found within the container, indeed at times almost all of the iodide can be recovered from the container. Sunlight and heat cause severe losses of iodide, and if the reaction is acid, there is far more loss than if an alkaline stabilizer has been added. However, if the salt is packed dry and kept dry, and if it is in an impervious container, its iodide content will remain quite constant and its distribution will remain quite uniform for many months. When these conditions cannot be met, it would be desirable to employ some form of iodine other than sodium or potassium iodide. The most promising substitute is iodate.

Iodate possesses certain inherent advantages over iodide for the iodization of salt, the principal one being stability. Under adverse conditions of moisture, heat and sunlight, the iodine content of iodated salt remains relatively constant.

be involved and when the endemia is very severe even pre adolescent children and infants can be surveyed with profit. Unfortunately in many surveys inadequate attention has been given to age and sex distributions. Such data are invaluable in assessing not only the extent of the endemia but also the effectiveness of prophylactic measures. The study group strongly recommended that such information be included in all subsequent surveys.

Social Impact of Endemic Goitre

Were the presence of thyroidal enlargement the only consequence of endemic goitre the problem would resolve itself into one of aesthetics. However other defects have been attributed to the iodine deficient state. Endemic cretinism which accompanies endemic goitre, has always been a major medical and economic problem in goitrous areas. The consequences of surgery may not be inconsiderable when this form of therapy is the predominant method of dealing with the disease. There is evidence to suggest that there is an increased prevalence of hyperthyroidism and possibly of carcinoma of the thyroid in goitrous regions.

A much more controversial issue is whether the impact of endemic goitre can be read in terms of the prevalence of feeble-mindedness, deaf mutism, retardation of growth and economic unproductiveness. These defects have been duly recorded in many goitre surveys. The validity of the causal relationship is of paramount importance. The study group was unimpressed by the reliability of much of the pertinent data. The measurement of mental competence and deaf mutism by strangers to the population of an undeveloped area may be extremely difficult. Many of the findings which have been described may be attributable to association rather than to cause and effect. The study group therefore stressed the need for further data designed to clarify the possible role of endemic goitre in depressing the level of physical and mental development of the population of a community. Data on height span and skeletal age as well as on mental proficiency would be highly desirable. The problems involved in obtaining such exact information are evident but suitable employment of sampling techniques can give data of high reliability even when small numbers of persons are tested.

Prophylaxis — the Iodization of Salt

The addition of small quantities of an iodine compound to salt is the most economical and effective way of supplying iodine to a deficient population. Potassium iodide has been successfully employed in the economically

Iodine Requirements and the Physiology of the Iodine-Deficient Thyroid Gland

Only meagre information is available regarding the metabolism of iodine by goitrous patients in an endemic area. Data were presented from observations in western Argentina. Many of the subjects in this study were found to have glands which had a very great avidity for and a very rapid turnover rate of iodine. There appeared to be an inverse correlation between the quantity of iodide in the diet and the ^{131}I uptake by the thyroid gland. Those patients who had adequate dietary iodide had low uptakes of ^{131}I whereas those with inadequate dietary iodide had high uptakes of ^{131}I . Most of the patients who were excreting less than 0.04 mg of iodide daily had ^{131}I uptakes of greater than 60% of the amount ingested.

When daily supplements of iodide were given to some of these patients there was a slow fall in the avidity of the gland for iodide with an accompanying positive iodide balance. One patient who was given 1.5 mg of iodide daily for six weeks developed thyrotoxicosis. Studies of the effects of varying quantities of added stable iodide on the uptake of radio active iodide showed that the uptake is little influenced by single doses of iodide below 2 mg but when more than 5 mg are given in a single dose most of it is excreted through the kidneys.

These studies and others suggest that the daily intake of iodine which is adequate for the prevention of endemic goitre is 0.1 mg. This allows for a certain margin of safety and is far below the level which has ever given any toxic effects. The data also suggest that in prophylactic programmes in which iodide is given intermittently in large doses as in candy it is uneconomical to give more than 5 mg in any single dose.

Need for Further Investigations

Throughout the deliberations of the study group it was repeatedly evident that there is need for further information on many aspects of endemic goitre. Some of the gaps in our knowledge have already been implied. Among the others are the following:

- 1 The world distribution of endemic goitre needs to be more carefully mapped.
- 2 The relation of endemic goitre to iodide deficiency needs to be more clearly defined. This can be done when appropriate facilities are available for measuring the urinary excretion of stable iodine which is a helpful measure of iodine intake.
- 3 While iodine deficiency is certainly the cause of most endemic goitre valuable information may derive from dietary and nutritional surveys in relation to endemic goitre.

Use of iodate

The pharmacology of iodate was reviewed by a member of the study group. Earlier studies indicated that very large, single doses of potassium iodite given by injection, were toxic to rabbits. In such experiments, diffuse pigmentary changes reminiscent of retinitis pigmentosa were seen in the ocular fundus. However the quantities necessary to produce these changes were far in excess of those which would conceivably be used in the iodization of salt. Certain long term studies on the oral administration of iodate carried out at the National Institute for Medical Research London have indicated that sodium iodite has a very low order of toxicity for mice and rabbits. No pathological changes were detected in the retina or kidneys of these animals. These studies suggest that salt can be iodized with perfect safety with iodate at a level of one part in one thousand which is a concentration far higher than would be necessary for the prevention of endemic goitre.

Certain physiological studies with iodite in which ^{131}I labelled iodate was used have shown that almost all of the iodine of iodate is available for utilization by the thyroid gland. While the results did not prove that the iodine which is derived from the ingested iodite is actually formed into hormone by the gland the presumption would be that this iodine is actually available for hormone synthesis.

The study group concluded that it is safe to use iodate interchangeably with iodide for the iodization of salt and that it has certain advantages of stability over iodide. Insufficient studies have been carried out at the 'field' level for a definite conclusion regarding the effectiveness of iodate in the prevention of endemic goitre to be reached but preliminary results suggest that it is as effective as iodide.

Level of iodization of salt

The desirable concentration of iodine in salt depends upon the daily iodine requirement and the daily salt intake. The latter varies widely. Many children take no supplementary salt at all except that which may be used in cooking. The average daily consumption in hot and humid countries such as southern India may approach 30 g. The recommended iodide content of salt also varies widely. In the USA it is one part in ten thousand whereas in Switzerland it has been one part in two hundred thousand. Fortunately, the thyroid gland is capable of adjusting to wide variations in iodine supply.

The study group recommended that salt be iodized to a level sufficient to supply 0.1 mg of iodine daily. The concentration of iodine in the salt therefore must depend upon the salt consumption habits of the people of the community. A considerable excess of iodine is tolerable.

NUTRITION IN AFRICA

The first inter African conference on food and nutrition was held in Isehang French Cameroons in October 1949 under the aegis of the French Government. In the course of the discussions it was proposed that a similar conference be organized in about three years time. As a result of this proposal and because rapid advances in knowledge indicated that the time was ripe for another meeting it was agreed to hold a second conference in 1952. The British Government on behalf of the Commission for Technical Co-operation in Africa South of the Sahara (CCTA) accepted the responsibility for organizing the 1952 conference which took place at the British Medical Research Council's field station at Fajara Gambia West Africa. Professor B S Platt Director Nutrition Research Unit Medical Research Council in association with his staff planned the programme and supervised its conduct. The subject for discussion was malnutrition in mothers infants and children in Africa.

In 1951 when the conference was under discussion both the Food and Agriculture Organization (FAO) and WHO were giving a good deal of thought to nutritional problems on a worldwide basis and after consultation between the two organizations and with the CCTA an arrangement was made by which a meeting of the Joint FAO/WHO Expert Committee on Nutrition would take place immediately following the conference. Ten experts from countries outside Africa were invited by FAO and WHO (five by each organization) to attend the CCTA conference as observers. It was also agreed that the WHO Regional Office for Africa would provide interpreters translators précis writers and facilities for simultaneous interpretation at both the conference and the subsequent joint committee meeting.

At the CCTA conference malnutrition in its various aspects including vitamin and mineral deficiencies was considered but the main discussion was focused on malnutrition due to deficiency of protein. Deficiency of this nutrient in the diet may affect the foetus in utero as well as the infant and child. Well fed mothers usually bear healthy children and are able to supply them with enough milk of good quality to give them a good start in life. A basic problem is to provide the child with sufficient protein after the cessation of breast feeding. In many underdeveloped countries there is little or no milk. Other suitable foodstuffs rich in protein are either not available or are not usually given to the young child. Deficiency of protein leads not only to high morbidity and mortality in the young age groups but also to suboptimal development and shortened life span in adults even among those who may have exhibited evidence of the deficiency in their early years.

The chief purpose of the CCTA conference was to exchange information and many important problems were clarified in the discussions which took

4 There is need for more careful study of the relation of endemic goitre to feeble-mindedness, retardation of growth and deaf mutism

5 Valuable information may result from further studies of the metabolism of iodine by the iodine deficient patient. These studies should include where possible the use of radioactive iodine and of chemical iodine assay. It would be particularly valuable to observe by these techniques, the long term effects of supplementing the diet with iodine

6 Development of simplified methods for the determination of iodine in biological fluids would be invaluable in field studies of endemic goitre

7 There is sufficient evidence from the older literature to warrant reinvestigation of the relation between hardness of water, calcium intake and endemic goitre. These studies could be relatively simple in a laboratory equipped for the determinations of ^{45}Ca and ^{131}I

8 There is confusion regarding the relation of endemic goitre to carcinoma of the thyroid. Properly performed studies of histological types of thyroid tumours should provide valuable information concerning the relation of tissue hyperplasia to neoplasia

9 The pathogenesis of thyroid nodules could be studied to advantage by the techniques of radio autography in an area of endemic goitre

10 Further information is needed regarding the effects of storage, temperature changes, moisture and handling on the stability of salt iodized with iodide and with iodate

11 There exists almost no information regarding the stability of iodide and iodate in the processes of cooking

Conclusions

Wherever possible, salt should be iodized at a level which will provide approximately 0.1 mg of iodine daily to the consumer. Iodization should be legally mandatory. When it is economically impractical to supply the entire population with iodized salt, careful surveys should delineate the areas where endemic goitre exists.

Iodate can be used interchangeably with iodide and has certain advantages in stability under conditions of heat and moisture.

There is need for further investigation of the nature and effects of endemic goitre, of the physiology of the iodine deficient gland and of the techniques for the production and distribution of iodized salt.

briefly surveyed in order to guide physicians surgeons and health officers in methods of control and prevention

Differentiation between Infectious and Serum Hepatitis

In an attempt to differentiate between infectious and serum hepatitis the clinical pathological and biochemical characteristics of these two diseases are reviewed Though there do exist certain small differences these are not sufficiently characteristic to enable a differential diagnosis to be made in a given case However clinical studies which have been made on large groups in which the true diagnosis was reasonably certain on epidemiological grounds have revealed differences which in conjunction with epidemiological evidence may be regarded as suggestive These are summarized in table I

TABLE I COMPARISON OF CERTAIN FEATURES OF INFECTIOUS HEPATITIS AND SERUM HEPATITIS

Clinical and epidemiological features	Infectious hepatitis	Serum hepatitis
Incubation period	15-40 days	60-160 days
Type of onset	Acute	Insidious
Fever (over 38°C (over 100.4°F))	Common	Uncommon
Seasonal incidence	Autumn winter	Year round
Age preference	Children and young adults	Any age

Temperate climates

Hepatitis Viruses A and B

Two viruses virus A and virus B are considered in the report although the possibility that these may be only two variants of a single virus or that there may be more than two viruses is noted

The term "virus A" refers to strains of virus which are associated with outbreaks of naturally occurring infectious hepatitis virus B represents the agent which may be present in human blood which when inoculated parenterally produces hepatitis usually after a period of 60 to 160 days The origin of virus B is not known

The report gives the following information concerning the two viruses

1 Virus A has been found in the faeces during the acute phase of the disease while virus B has not

2 Both viruses have been found in the blood during the acute stage of the disease Virus B has been found early midway and late in the incubation period the longest time known before jaundice being 87 days

place. Scientific papers and demonstrations concerning the clinical aspects, etiology, biochemistry and pathology of diseases associated with protein deficiency were presented, and the excellent facilities of the field research station were utilized to the full. The experts from outside Africa who had been invited by FAO and WHO took an active part in the conference and were able to report on results of observations and research in other parts of the world thus adding to the total knowledge and experience.

On the final day of the conference a number of conclusions and recommendations were framed. These emphasized the following points:

- 1 Protein deficiency is widespread in Africa. It appears most often in the infant and young child although the foundation for it may be laid in prenatal life. In spite of preventive measures, the condition will continue to prevail for some time, knowledge concerning and facilities for treatment should therefore be made widely available.

- 2 There is need for further research on many aspects of this problem.

- 3 Success in prevention of this deficiency lies in the utilization of the existing and potential resources of protein, both vegetable and animal. The conference participants recognized that lasting improvement could be achieved only through improvement in the nutrition of adults especially women, up to a point which will permit substantial increases in the effort that can be devoted to the production of food.

The conference also drew attention to the need for regular exchange of information among workers in Africa, interested scientific organizations and the appropriate specialized agencies of the United Nations.



Reports of Expert Groups

PUBLIC-HEALTH ASPECTS OF HEPATITIS

Infectious hepatitis and serum hepatitis two diseases which are probably related, have come to be recognized with increasing frequency throughout the world. In some epidemics there has been a relatively high mortality, and these diseases have become of social and economic importance.

In the first report of the WHO Expert Committee on Hepatitis, which has been published as No. 62 in the *Technical Report Series*¹ the existing knowledge regarding the etiological agents, their methods of spread and the general circumstances under which these diseases are apt to occur is

¹ *World Health Org. techn. Rep. Ser. 1953 62* Published in English and in French. Price 1/6 \$0.20 or Sw. Fr. 0.80.

Control and Prevention

Infectious hepatitis

Since direct contact is the commonest form of transmission of infectious hepatitis and the faecal oral route is the important mode of spread of the disease attention should be directed towards its interruption. Precautions should be taken as regards personal cleanliness, safe disposal of excreta, prevention of contamination of food, water and milk supplies directly or by the hands of infected persons, fly abatement and screening of kitchens and latrines. Chlorination of water should be preceded by filtration and settling of the water.

The intramuscular administration of normal human gamma globin in the amount of 0.022 ml/kg of body weight has been shown to prevent infectious hepatitis when given after exposure and as late as six days before the onset of symptoms. This prophylactic measure is recommended in certain family outbreaks, particularly for adults in whom the disease tends to be more serious, and in the control of epidemics in institutions and among certain other closed groups.

Serum hepatitis

The report of the Expert Committee on Hepatitis contains a number of recommendations concerning measures for ensuring the safety of medical procedures involving parenteral penetration. There is no way of knowing whether a blood donor harbours hepatitis virus, but a history of hepatitis (jaundice) may indicate an increased probability that he may be a carrier. An enlarged liver and/or abnormal liver function tests would be further indications of this probability. When circumstances permit, no one who has any previous history of hepatitis should be accepted as a blood donor. Under conditions in which it may be necessary to accept such persons as donors, the following guiding principles should be adhered to:

1. No donor should be accepted, except in case of life saving emergency for a single transfusion, if he has a history of hepatitis within one year.
2. If the donor has a history of hepatitis more than one year before, liver function tests should be performed.
3. The blood from a donor with a history of hepatitis should not be used in the preparation of large plasma pools until methods of sterilization are available.

While earlier experimental studies suggested that virus B was destroyed in plasma by ultra violet irradiation, subsequent investigations have indicated that this is not always true. It may be said at the present time that the intensity and conditions of ultra violet irradiation necessary to sterilize plasma of hepatitis virus are not known. Extensive investigations

3 Both stools and blood known to contain virus A when given by oral or parental routes have produced hepatitis with jaundice after an incubation period of 15-40 days while virus B has been infectious only when given by parenteral routes

4 Virus A has not, so far, been demonstrated in the blood after the acute stage of the disease but virus B has been known to be present in the blood for at least five years

5 Both epidemiological and experimental studies indicate that in the vast majority of individuals one attack of virus A produces immunity to reinfection with that virus but does not produce immunity to virus B

Methods of Spread

Virus A

Observations and investigations which have been made since 1940 particularly in warm climates or under battle conditions suggest that the faecal-oral route is an important method of spread of this virus. The presence of virus A in the stools of patients in the acute stage of infectious hepatitis and the widespread distribution of other faecal organisms in the normal environment indicate how easily fingers, food and fomites can be contaminated with the virus and how infection by brief direct contact can take place.

In some countries observers have believed that infectious hepatitis has been spread by droplet infection from nasopharynx to nasopharynx. It is true that in some outbreaks about 20% of the patients have had catarrhal symptoms of the upper respiratory tract but attempts to demonstrate the presence of virus A in nasopharyngeal secretions collected during the acute stage of the disease have been unsuccessful.

Because virus A is present in the blood during the acute stage of the disease it may also be spread by inoculation of blood during prophylactic or therapeutic procedures such as vaccine injections, transfusions, venepunctures, etc.

Virus B

Virus B has been found neither in stools nor in nasopharyngeal secretions although some observations have suggested that contact infection can occur. The only method of spread of which there is unequivocal proof is by parenteral penetration. Individuals who have received blood for prophylactic or therapeutic procedures or who have had multiple injections of substances such as vaccines, insulin, gold, and antibiotics have been infected with this virus. In addition there are certain procedures such as the processing of blood in blood banks and the collection and examination of blood in hospital laboratories during which infection with this virus can occur.

Teaching by a method known as the *situation approach* is the best means of preparing the nurse for her work. This method offers her opportunities to acquire direct experience of a great variety of situations through which she may develop her understanding and skills. Faced with a particular case the student nurse will first draw upon her knowledge of nursing theory and then upon the previous nursing experience which she has had. She must be familiar with a number of different subjects—*anatomy, physiology and chemistry* for example. Application of principles of *psychology* and *mental hygiene* will aid her in adopting the proper attitude towards the patient. Knowledge of *sociology* will be useful to her in understanding the milieu from which the patient comes.

However the “*situation approach*” can be introduced into nursing schools only gradually. The report contains a study of the conditions under which such teaching may be developed and suggestions as to how it may be integrated into the general programme of nursing care. A table given in an annex shows how formal instruction may be combined with actual experience to give the desired result—*training of a type which will produce a nurse qualified in every way for her work*.

The nurse described in the report represents an ideal nevertheless it is important that local, national and international groups concerned with the training of nurses should not lose sight of this goal. It is hoped that all who are interested in the problem of nurses' education will find in this conference report information to aid them in their efforts to answer what is an ever present question: *How can we prepare nurses to meet our needs?*

Review of WHO Publications

BCG VACCINATION

For nearly three years the WHO Tuberculosis Research Office (TRO) in co-operation with the International Tuberculosis Campaign and the Danish Statens Serum Institut has been conducting an investigation on BCG vaccine—a suspension of living but attenuated tubercle bacilli widely used to confer protection against tuberculosis. The BCG research programme was developed in response to the practical everyday problems arising in the international mass BCG vaccination campaigns as well as in answer to the recognized need for more precise information about the vaccine itself—its variability from batch to batch, its keeping qualities, how it should be applied, how it is affected by physical agents such as heat and light and many related questions. The results have been drawn together into a comprehensive report prepared by the TRO staff under the direction

are under way to define these conditions and to determine other possible methods of inactivation of the virus

The dangers of serum hepatitis are not always appreciated by some members of the medical profession largely because of the long incubation period which conceals the relation between transfusion and subsequent hepatitis. It is therefore recommended that "national health authorities should call the attention of the medical profession in their countries to the dangers of transmitting hepatitis by transfusion of plasma and whole blood and also by the use of certain blood derivatives, and should advise that plasma particularly large pool plasma should not be used unless the advantages likely to be gained by its transfusion outweigh the risk of transmitting the disease

NURSING EDUCATION

In response to requests formulated by the WHO Expert Committee on Nursing a working conference on nursing education was convened by the Organization. The report on this conference has recently been published as No. 60 in the *Technical Report Series*¹

This report shows how in every country nursing services follow a pattern of development parallel to that of the health services. Once they reach a certain stage there begins to be felt a need not only for more nursing personnel but also for personnel which is better qualified. This constant evolution which results from general economic and social improvement makes the organization of nursing services anything but static and abolishes all rigidity in the training of nurses.

Progress in medicine and social economic and technical development bring increasing responsibility to nurses and add to the importance of their functions. In fact the physician who becomes more and more involved in specialized work delegates to the nurse certain tasks which were formerly his: this is true also of the public health officer. The nurse assumes a co-ordinating role through her direct contact with the patient she helps him to benefit from all the resources available to him in the public health team. In addition she must supervise the work of auxiliary personnel and train student nurses. She must therefore possess besides her professional training a maturity of mind which will enable her to analyse the type of care which a patient requires to seek continued growth and educational development and to instruct others—the patient and his family as well as auxiliary personnel.

reactors (according to criteria in general use today) It is evident that small variations in the amount of BCG injected have little practical importance so far as the level of tuberculin allergy in vaccinated children is concerned

A series of studies was undertaken to determine the effect of variations in the technique of intracutaneous injection of vaccine The intensity of post vaccination allergy was found to be practically the same whether the vaccine was injected very superficially into skin as is recommended or into the subcutaneous tissues nor was the allergy affected by variations in the volume injected ranging from one half to as much as three times the usual quantity of 0.1 ml On the other hand both the size and the severity of the local lesion at the site of vaccination were greatly influenced by the depth of injection the deeper the injection the larger the local lesion and the more frequent the formation of a local subcutaneous abscess

The effect on BCG vaccine of exposure to light and heat was investigated in a number of separate studies The results revealed that both light and heat reduce the potency of vaccine but at a different rate Kept at near freezing temperature and protected from light BCG vaccine loses its potency very slowly the loss becomes measurable only after a period of months By raising the storage temperature the rate of loss is increased at 20° C the loss of potency becomes detectable within weeks and at higher temperatures within days A much more rapidly destructive effect is exercised by light indirect daylight causes measurable loss of potency within a few hours and direct sunlight in a matter of minutes or even seconds These findings though not basically new indicate that vaccine must be protected from even short periods of exposure to high temperatures or to light to prevent the possibility of widespread use of vaccine which though recently prepared has already lost much of its potency to produce allergy On the other hand vaccines that produce a high degree of allergy when fresh may be expected to retain their effectiveness for up to two months if stored in a refrigerator at 2-4° C or for about one month if kept in the dark at temperatures below 20° C

Trials with vaccines containing varying proportions of living and dead BCG organisms gave some unexpected results Vaccine composed entirely of dead organisms produced a low level of allergy but the addition of only a small fraction of living organisms led to a surprisingly steep increase in potency The effect of the dead organisms is apparently augmented by the presence of living BCG or vice versa so that when combined the two components produce stronger allergy than would be expected from the sum of the allergenic capacities of each used alone These findings together with those from studies on the effect of variations in intracutaneous vaccination technique suggest that even a vaccine containing a high proportion of dead organisms may produce good strong takes at the site of vaccination if injected deeply into the skin (or subcutaneously)

of Dr Lydia B Edwards and Dr Carroll E Palmer with the assistance of Mr Knut Magnus¹

More than 40 000 schoolchildren in Denmark Egypt India and Mexico were tested with tuberculin, some 23 000 considered eligible for vaccination on the basis of their reactions were given an intracutaneous injection of BCG The vaccinated children comprised the study population divided into nearly 300 groups according to some planned variation in the technique of vaccination or in the way the vaccine was prepared or treated before use Tuberculin tests were then repeated, and the local lesions (or scars) resulting from vaccination were examined after two to three months one year and two years

These measured responses to vaccination together with the results of the pre vaccination testing are given in tabular form in the appendices of the report constituting a source book for the entire series of studies Results drawn from the tables are presented and discussed in separate chapters according to subject (1) scope methods and material of the investigation (2) pre vaccination tuberculin sensitivity (3) response to BCG vaccination (4) effect of temperature and duration of storage on BCG vaccine, (5) effect of exposure of BCG vaccine to light (6) variations in the technique of intracutaneous BCG vaccination, (7) variations in the preparation of BCG vaccine (8) BCG vaccine from different production centres (9) effect of diluting BCG vaccine and the significance of dead organisms, and (10) general summary

Though some of the material has been published previously² the present monograph is intended to give a comprehensive survey of the most significant results of the BCG vaccine studies as of September 1952 Some of the findings must be viewed as preliminary and the conclusions as tentative pending further investigation But many of the findings are based on studies repeated so frequently and with such consistent results as to warrant valid conclusions, even though often they are not in accord with prevalent views about BCG

Inoculation of groups of schoolchildren with progressive dilutions of the same vaccine showed that reduction in the strength of vaccine is followed by a regular decrease in the average size of post vaccination tuberculin reactions and vaccination lesions But the decrease was much less than expected the effect of halving or quartering the number of organisms injected was hardly detectable and for some regular batches of vaccine the strength could be reduced several hundred times without impairing the result as measured by the percentage of vaccinated classifiable as positive

Edward L B Palmer C E & Magnus K (1953) BCG vaccination studies by the WHO Tuberculosis Research Office Copenhagen (1) *World Health Organization Monograph Series* No 1 307 pages price 15/ \$3.00 or 5s 6d Available in English Free distribution in preparation

See for example *British Medical Journal* 1950 3 1 279 1951 5 45 333 1952 7 701 and *Chron*

STUDIES ON TUBERCULOSIS

Incidence Control, Tuberculin and Histoplasmin Sensitivity, and BCG Vaccination

A recent number of the *Bulletin of the World Health Organization*¹ is devoted entirely to tuberculosis and related subjects

In an article entitled *Epidemiological factors in tuberculosis control* observations on the distribution of tuberculosis mortality in seven countries Dr J B McDougall former Chief of the WHO Tuberculosis Section considers in detail the geographical distribution of tuberculosis mortality in England and Wales France Iceland Scotland Sweden Switzerland and the USA He calls attention to the fact that a high tuberculosis death rate for a country as a whole does not necessarily indicate a uniform prevalence of the disease throughout the country certain areas may have a particularly high incidence of tuberculosis while others return relatively low rates He suggests that inasmuch as material and financial means are generally not available for a nationwide attack on tuberculosis control efforts should be concentrated on those areas which have the highest tuberculosis death rates Specific measures to be taken in tuberculosis-control campaigns are outlined and successful projects in Greece and in the USA are described

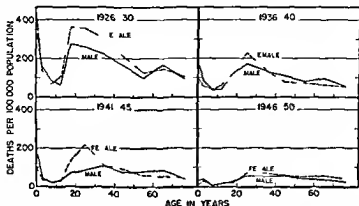
Tuberculosis morbidity and mortality in Iceland from 1911 to 1950 are reviewed in a study by Dr S Sigurdsson Medical Director of Tuberculosis Control Reykjavik and Dr Phyllis Q Edwards of the WHO Tuberculosis Research Office Copenhagen Fig 2 illustrates vividly the decrease in tuberculosis mortality during the period studied The mortality rates are broken down to show the distribution according to age and sex (see fig 3) The relative roles of the different forms of tuberculosis in the mortality figures are also demonstrated Tuberculosis infection and morbidity rates are discussed these too have shown a striking decrease The authors consider that a general rise in the standard of living and systematic control measures inaugurated in 1935 have contributed greatly to this reduction in tuberculosis morbidity and mortality

Drs C E Palmer and L E Bates of the WHO Tuberculosis Research Office describe an investigation of tuberculin sensitivity in 3 000 tuberculous patients in Denmark Egypt India and the USA The results of this investigation indicate that sensitivity to a low dose of tuberculin is probably a universal characteristic of persons having clinical tuberculosis more than 95% had definite reactions to the 1 TU (tuberculin unit) test and over 99% to the 5 TU test The distributions of reactions were so similar for the patients in different countries as to suggest that the spectrum of tuberculin sensitivity for all is very much the same regardless of race place

The results from the separate studies, taken as a whole, bring out some basic features about tuberculin sensitivity—the sensitivity induced by BCG as well as the naturally acquired kind found in unvaccinated schoolchildren. Like a recurring theme throughout the investigation tuberculin sensitivity is shown to be appropriately described in terms of degree rather than as simply being present or absent positive or negative. After vaccination, for example, the sizes of the tuberculin reactions of a group were generally found to be fairly closely concentrated—some reactions were smaller than the average and some larger, yet the population as a whole responded to vaccination with much the same degree of tuberculin sensitivity. The degree of sensitivity, in turn, depended upon the particular batch or strength of vaccine used. Some vaccines induced tuberculin sensitivity as high as that found from natural infection (and the same high degree of BCG induced sensitivity was still present after two years). With other vaccines the group response was of a low degree. Irrespective of the degree of sensitivity, however, the vaccinated group nearly always responded in much the same way and for this reason the average size of the post vaccination reactions is shown to be a simple useful way to describe results for a group of persons given the same vaccine or to compare results with different vaccines. The more familiar method of noting the percentage of positive reactions gives far less information and may even obscure large differences in the degree of sensitivity induced by different vaccines.

Results of the tuberculin tests given to select children for vaccination—some 40 000 of them in four different countries—reveal that there are at least two different kinds of naturally acquired sensitivity. One kind found everywhere is seen as strong reactions to a weak dose of tuberculin. This high grade sensitivity undoubtedly results from infection with virulent tubercle bacilli, and its frequency generally corresponds with the prevalence of tuberculosis in each area. The other kind found only in some countries or in some areas within a country is evidenced by smaller reactions to a weak dose and clearly differs from no sensitivity at all—persons showing reaction, non sensitive persons fail to react whatever the dose. This low grade kind of sensitivity was disclosed as an important by product of the BCG vaccination programme by studying the measured sizes of the tuberculin reactions and comparing the results from different areas where the tests and procedures had been done with uniform techniques. The fact of its existence even though its cause is still unknown necessarily introduces a new note of uncertainty into the interpretation of tuberculin reactions. This has a direct bearing on the validity of tuberculosis infection rates based on results of tuberculin testing surveys in some parts of the world and it also raises practical problems in how to select persons to be given BCG and how to evaluate the results of mass vaccination programmes.

FIG 3 TUBERCULOSIS MORTALITY RATE PER 100 000 POPULATION BY AGE AND SEX FOR SELECTED FIVE YEAR PERIODS ICELAND 1926-50



Research Office report on the results of field investigations carried out to determine the effect on post vaccination allergy and vaccination lesions of variations in (1) the total number of BCG organisms per unit volume of vaccine and (2) the relative proportion of living and dead organisms in the vaccine. It was found that each tenfold dilution of fresh vaccine caused a reduction of roughly 3-4 mm in the mean size of the tuberculin reactions and the vaccination lesions after ten weeks. Dead BCG in general produced smaller vaccination lesions and considerably smaller tuberculin reactions than the same quantity of living BCG. It was also revealed that

1 While with living BCG there seems to be a direct continuous relation between the number of organisms injected and the degree of allergic response with dead BCG the effect is something like an all or nothing response

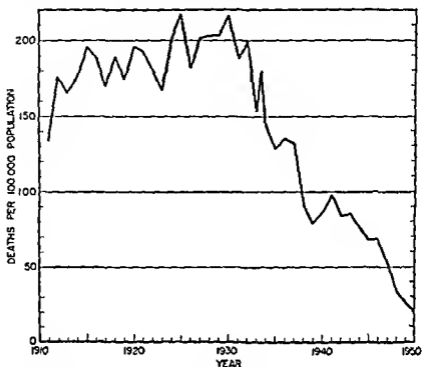
2 Diluting the vaccine causes a more rapid drop in the biological effects of dead BCG than of living vaccine

3 In relation to the size of the vaccination lesions dead BCG produces much lower allergy than living BCG and thus allergy develops more slowly

4 The allergy production of living and dead BCG together is greater than would be expected from simply adding the effect of one to that of the other it appears that there must be some kind of interaction between the two

These findings are relevant to the production of uniform vaccines with predictable results to the standardization of vaccines and to the evaluation of field results

FIG 2 TUBERCULOSIS (ALL FORMS) MORTALITY RATE PER 100 000 POPULATION:
ICELAND 1911-50

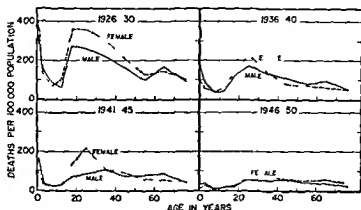


of residence and the many other factors which may differentiate cases of clinical tuberculosis in different countries

Tuberculin testing of prisoners in Burma gave Dr H A Tucker and Mr N Kvisselgaard WHO advisers on venereal diseases and BCG vaccination respectively an opportunity to conduct a pilot type study of histoplasmin sensitivity among 3,558 subjects. Histoplasmosis has apparently never been diagnosed on the continent of Asia although a case has recently been reported in Indonesia in which *Histoplasma capsulatum* was isolated in culture. The possible existence of undiagnosed histoplasmosis in Lower Burma was suggested by its proximity to Indonesia and by the close resemblance of environmental conditions in the region (rainy, low altitude) to those in many areas where this disease is endemic. The study of Dr Tucker and Mr Kvisselgaard reveals a considerably higher prevalence of sensitivity to histoplasmin in Lower Burma than in Upper Burma where environmental conditions are different (hot, dry). Detailed results of the tuberculin and histoplasmin tests are given and the relation of geographical factors to histoplasmin sensitivity is considered. The authors conclude that the sum of circumstantial evidence is strongly in favour of the occurrence of *Histoplasma* in Lower Burma.

In the fifth of a series of studies on BCG vaccination appearing in the *Bulletin* Drs S Nissen Meyer and C E Palmer of the WHO Tuberculosis

FIG 3 TUBERCULOSIS MORTALITY RATE PER 100 000 POPULATION BY AGE AND SEX FOR SELECTED FIVE YEAR PERIODS ICELAND 1926 50



Research Office report on the results of field investigations carried out to determine the effect on post vaccination allergy and vaccination lesions of variations in (1) the total number of BCG organisms per unit volume of vaccine and (2) the relative proportion of living and dead organisms in the vaccine. It was found that each tenfold dilution of fresh vaccine caused a reduction of roughly 3-4 mm in the mean size of the tuberculin reactions and the vaccination lesions after ten weeks. Dead BCG in general produced smaller vaccination lesions and considerably smaller tuberculin reactions than the same quantity of living BCG. It was also revealed that

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These findings are relevant to the production of uniform vaccines with predictable results to the standardization of vaccines and to the evaluation of field results

DISABLING ILLNESS IN CEYLON

A summary of the results of a sample survey to determine the prevalence of disabling illness on an average day in Ceylon has been published in the *Bulletin of the World Health Organization*¹. This survey, which was conducted in December 1950 comprised door to door interviewing of 17,946 households representing all the districts communities and ethnic groups in Ceylon. The prevalence and the prior duration of disabling illness were determined for persons from the civilian non institutional population aged 15-64 years.

The survey revealed that on an average weekday, 5.32% of the sample population was unable to work because of illness or injury. This corresponds to an estimated number of 237,000 persons aged 15-64 years in the whole of Ceylon being disabled on an average weekday. The average number of days of disability that might be expected in a year for each person in the sample group was 19.4.

The prevalence of disabling illness increased steadily with advancing age until, from 55 years onwards, about one in every nine persons was disabled. Of the total number disabled over 34% had been disabled for three months or longer at the time of the visit, about one third had been disabled for less than one week. The younger age groups showed a greater prevalence of short duration disabilities. Only in the age groups 20-24 and 25-34 was there any significant difference between the sexes females showing the greater prevalence of disabling illness.

The lower the economic status of the family the greater was the percentage of persons with a disabling illness the higher was the percentage of chronically disabled and the greater was the estimated number of work days lost per person per year through disablement.

The influence of marital status occupation and size of household upon the distribution of disabling illness is also discussed and the major groups of diseases causing disablement—infective and parasitic diseases rheumatic diseases diseases of the respiratory system and diseases of the skin—are indicated.

¹ *Bull. World Health Org.* 1951, 7, 405.

AN EPIDEMIOLOGICAL INVESTIGATION IN YUGOSLAVIA

In 1949 an epidemiological investigation of a rural district in Yugoslavia was undertaken with the aim of giving postgraduate medical students practical experience of public health work. The investigation was of value not only educationally as a training course for future epidemiologists but also technically and administratively since it provided a comprehensive study of medical and public health problems in a rural district and might be considered as a pilot project for future surveys. A report on this project appears in a recent number of the *Bulletin of the World Health Organization*.¹

The area selected for investigation was the district of Bijeljina in Bosnia which had suffered greatly from devastation and infectious disease during the second World War. The inhabitants presented considerable variety in living conditions as between Christians and Mohammedans and between townspeople, farmers and vagrant gipsies; moreover young men and women drawn from different parts of the district were working together on the construction of a railway line running through it.

During six weeks' field work 17 988 rural homes were visited, living conditions (housing, sanitation, food, etc.) investigated and cases of disease and sources of infection sought. 8 873 patients who applied to mobile clinics were examined, 2 009 laboratory examinations were performed in five laboratories, 2 388 persons were vaccinated against typhoid and para typhoid fevers and 5 950 children between one and nine years of age were vaccinated against diphtheria. 9 209 x-ray and fluorographic examinations were made and a tuberculosis prevalence of 9% was revealed. Two small epidemics of relapsing fever were successfully controlled. Health propaganda in the form of lectures and the distribution of literature was undertaken; the most effective type of propaganda, however, was found to be the use of insecticides which were applied to 4 369 persons, 3 790 rooms and 1 500 m² of swamps.

Valuable epidemiological information was collected. During the hottest period of the year (July-August) 34 cases of relapsing fever were discovered while official statistics showed only one case for the period 1945-8. Further 583 cases of other infectious diseases were noted during a period of only six weeks while official statistics showed only 588 cases for the preceding two years—1947 and 1948. A general picture of the pathology of the district emerged showing the main health problems to be diseases of the digestive tract, parasitic infections and children's diseases.

MALARIA TERMINOLOGY

The need for a standard nomenclature in malariaology was recognized by the Malaria Commission of the League of Nations. The Commission's *Report on terminology in malaria*, published in 1940 and now out of print has recently been revised by a drafting committee appointed by WHO and has been issued as No. 13 in the *World Health Organization Monograph Series*¹. This monograph represents a guide for malaria workers since it contains what amount to standardized procedures in epidemiological inquiries on malaria. Such standardization seems particularly necessary for the objective assessment of results of malaria control campaigns and for the comparison of these results in various countries.

Malaria terminology is in two parts: the first, a commentary on the terms used by malariaologists—excluding however those for engineering techniques, spraying apparatus and drugs employed in malaria control—and the second, a simplified but comprehensive glossary which serves as an index to the former. Part I falls into three sections covering the malaria parasites and the infections to which they give rise, the measurement of malaria in the human community and the malaria vector itself—*Anopheles*. The zoological nomenclature of the parasites is clarified, the tissue stages of plasmodia are illustrated in a series of figures, the chief rates and indices used in measuring endemicity are defined and a systematic method of age grouping and a schema for classifying data on splenomegaly are given.

¹ World Health Organization (1953) *Malaria terminology*. Geneva: World Health Organization Monograph Series No. 13. 82 pages, price 3/- \$1.00 or Sw fr 4.-. A report on French malaria terminology is in preparation.

Notes and News

Dr M G Candau Nominated as Next Director General

The WHO Executive Board at its eleventh session nominated Dr M G Candau Assistant Director of the Pan American Sanitary Bureau (PASB) to succeed Dr Brock Chisholm as Director General of the Organization. Dr Chisholm's five year contract will expire on 21 July 1953 and he has refused the extension offered him by the Fifth World Health Assembly¹. Dr Candau's name will be presented to the Sixth Health Assembly which opens in May.

Dr Candau has been with WHO since 1950. At Headquarters he held the posts of Director of the Division of Organization of Public Health Services and subsequently of Assistant Director-General in charge of the Department of Advisory Services². He assumed his appointment with the PASB which is also the WHO Regional Office for the Americas in March 1952³.

Team of Medical Specialists Visits India

Under the auspices of WHO and the Unitarian Service Committee a team of medical specialists from eight different countries has gone to India. This is the second such team to visit South East Asia⁴ and the sixteenth such project to have been undertaken since 1946⁵. The purpose of these visits is an exchange of scientific information and experience as well as a review of problems of medical education and of the relationship between the preventive and the curative aspects of medicine.

Team members will spend one month in each of two cities Madras and Bombay giving lectures and demonstrations visiting hospitals and operating theatres showing films and holding discussions with their Indian colleagues. In turn they will have an opportunity to study clinical cases of certain diseases which they seldom observe in their own countries. The team will take part in a two days conference on medical education organized in Madras.

Among the members of the team are two winners of the Nobel Prize Sir Alexander Fleming Principal of the Wright Fleming Institute of Microbiology University of London Great Britain and Dr C Heymans Professor of Pharmacology University of Ghent Belgium. Others are Dr J C Aub Professor of Research Medicine Harvard University USA Dr S C Cullen Professor of Anaesthesiology State University of Iowa USA Dr K Evang (Vice Chairman of the team) Director General of Public Health of Norway Oslo Norway Dr J E Gordon Professor of Preventive Medicine and Epidemiology Harvard University School of Public Health USA Dr E Grzegorzewski Professor of Public Health Director of WHO Division of Education and Training Services Geneva Switzerland Dr E Husfeldt Professor of Surgery (Thoracic Surgery) University of Copenhagen Denmark Dr S Z Levine (Chairman of the team) Professor of Paediatrics Cornell University New York USA Dr E Lundsgaard Professor of Physiology University of Copenhagen Denmark Dr R R Macintosh Nuffield Professor of Anaesthesiology University of Oxford Great Britain Dr H Osmond Clarke Honorary Surgeon and Assistant Director the Orthopaedic and Accident Hospital University of London Great Britain Dr G Portmann Professor of Oto-Rhino-Laryngology University of Bordeaux France Dr L G Rigler Professor of Radiology University of Minnesota USA and Dr P Valdoni Professor of Surgery University of Rome Italy.

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New Quarantine Station at Jeddah

A new quarantine station will be opened at Jeddah in 1953 and will be ready for the next Mecca Pilgrimage. This station which is being built at the expense of the Government of Saudi Arabia comprises an accommodation for isolating contacts under observation, a communicable diseases hospital and a general hospital and laboratory. At the request of the Government WHO is providing a bacteriologist and a quarantine expert for two years to help in developing the work.

Dr Mohamed Sabry El Far, the quarantine expert, has already assumed his post. Dr El Far has had much experience in quarantine matters, having been director of the quarantine stations at El Tor and Suez and Deputy Director General of the Egyptian Quarantine Administration from which he is on loan to WHO.

The new quarantine station at Jeddah will replace the one at Kamaran which has operated since 1881 and has handled as many as 100 000 pilgrims entering and leaving the Hedjaz in one year (1926-7) *.

Food Hygiene Consultant Sent to India

At the request of the Government of India, FAO and WHO have sent Dr H. Thomson, a food hygiene consultant, on a three month assignment to that country. Dr Thomson, who is Chief Veterinary Officer for the City and County of Newcastle-on-Tyne, England, has previously served as an FAO/WHO consultant in which capacity he visited 22 different countries in Europe, the Middle East and the Americas. In India he will advise on the introduction of modern techniques in the inspection of foods of animal origin and in food market practices; he will also give advice on legislation concerning food hygiene in various States of India. His particular concern will be the prevention of food borne diseases of animal origin in man.

Japanese Virologist Joins Trachoma Research Project in Egypt

An eminent virologist, Dr Yosio Kawakita, has been loaned to WHO by the Chiba Medical University, Japan, for work on a trachoma research project at the Memorial Ophthalmic Laboratory, Giza. With Dr M. Lyons and the Laboratory staff, Dr Kawakita helped to organize a course on trachoma and participated in an ophthalmological seminar which was held at Cairo from 19 to 28 February. WHO granted fellowships to specialists from Eastern Mediterranean countries to enable them to attend the course and the seminar.

* See *Wkly epid m Rec* 1952, 27, Supplement to No. 308, 20 November.



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

9 April-1 May	Travelling Study Group School Health Services, Denmark and the Netherlands
10-18 April	European Conference on Health Education London
13-19 April	Pan Pacific Tuberculosis Conference (Philippine Department of Health/WHO/Philippine Tuberculosis Society), Manila
23-24 April	Ad Hoc Committee on Sanitary Engineers Seminar, Geneva
1-2 May	Joint Committee on Health Policy, UNICEF/WHO, sixth session, Geneva
5-23 May	Sixth World Health Assembly, Geneva
28 May	Executive Board, twelfth session, Geneva

THE WORK OF WHO 1952

A Review of the Annual Report of the Director General

In 1952 WHO's role as a co-ordinator became increasingly important more and more governments and agencies looked to the Organization to fulfil the task of directing and co-ordinating international health activities. The scope of WHO's work thus became wider with the many and varied types of guidance which it was called upon to give particularly in programmes for technical assistance. This guidance ranged from technical direction of field projects in which governments or other agencies were involved to arranging seminars and symposia and aid in the selection of candidates for fellowships financed by other organizations or agencies.

The principal lines of activity however continued to be those of former years—efforts to control communicable diseases and in strengthening national health administrations education and training of medical and auxiliary personnel epidemiological and statistical services activities relative to drugs and other therapeutic substances (e.g. biological standardization International Pharmacopoeia non-proprietary names for drugs and drugs liable to produce addiction) procurement of essential drugs and equipment and international medical documentation services (publications, library work). All of these are reviewed in the Annual Report of the Director General¹ which appeared in early March.

Communicable Diseases

Efforts to control the major endemic and epidemic diseases were concentrated on improving resistance to these diseases controlling the vectors reducing animal or human reservoirs of infection encouraging research and providing the requisite training for essential personnel. To lessen duplication of activity and to economize in expenditure and personnel the Organization gave assistance in some areas in the simultaneous control of several communicable diseases—for example of malaria and yaws in Liberia of malaria and bilharziasis in Syria and of smallpox and tuberculosis in Iran through a combined vaccination campaign.

¹ World Health Organization (1953) *The work of WHO 1952 annual report of the Director-General to the World Health Assembly and to the United Nations* (Off. R. W. H. H. Org. 45), Geneva, vi+204 pages, Price 9/- \$1.25 or Sw. fr. 5.—Published in English and in French.

Malaria

WHO continued to assist malaria control projects in Afghanistan, Burma, Cambodia, China (Taiwan), India, Indonesia, Iran, Iraq, Lebanon, Saudi Arabia, Syria, and Viet Nam. Preliminary surveys were conducted in the French Cameroons, French Togo, and French West Africa. Aid

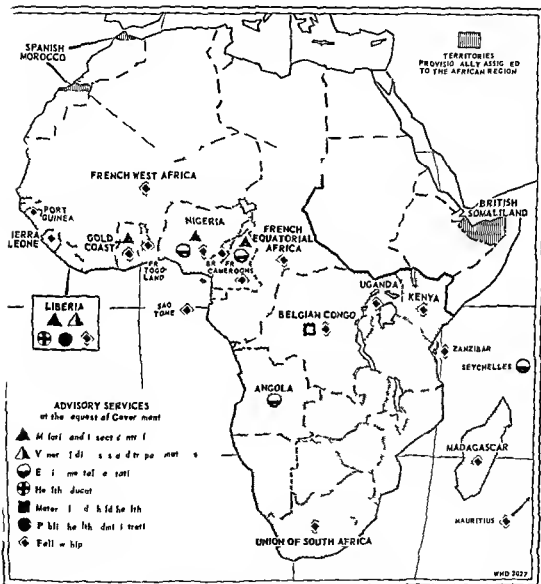
FIG 1 MALARIA



To aid in malaria control elementary information concerning the disease is given to schoolchildren in India

was given to Paraguay in intensifying campaigns against malaria and yellow fever and to the Dominican Republic, Haiti and the Windward Islands in malaria and insect control projects. An adviser on malaria made a survey in Somalia. Co-operative pilot projects were started in the Philippines and Sarawak to determine whether spraying with residual insecticides can be as effective a method of malaria control in particular areas of the Western Pacific Region as it has been elsewhere.

FIG 2 AFRICAN REGION



Work including joint activities undertaken in 1952

In addition to providing training for malaria workers in field projects, awarding fellowships and travel grants in malariology, and giving assistance to malaria institutes and training centres, the Organization helped to organize two international malaria courses in 1952 one, given in French in Portugal (at Aguas de Moura and Lisbon), and the other, in English, at Lagos Nigeria

Tuberculosis

WHO's field work in tuberculosis consisted principally of aid in establishing tuberculosis demonstration and training centres, and assistance usually with UNICEF, in conducting BCG vaccination campaigns, preferably in connexion with general tuberculosis control programmes. Help continued to be given to demonstration and training centres in Burma Ecuador, El Salvador, India Indonesia Jamaica Pakistan Paraguay,

FIG 3 TUBERCULOSIS



Home visits of the public health nurse are important in the fight against tuberculosis in Burma

and Thailand. New centres were opened in Cairo, Egypt, and in Damascus, Syria. WHO aid came to an end during the year at centres in India (Delhi) and in Turkey (Istanbul). Assistance in the form of personnel was provided for tuberculosis control activities in Ceylon, Ecuador (teaching centre and BCG production laboratory), Greece, and Paraguay.

BCG vaccination campaigns were begun in Costa Rica, Indonesia, Iran, Iraq, Sarawak, Trinidad, and Turkey, continued in Burma, El Salvador, India, Jamaica, Pakistan, and the Philippines, and completed in Aden, China (Taiwan), Egypt, and Hong Kong.

During 1952 important studies on BCG vaccination and tuberculin sensitivity were carried out by the Tuberculosis Research Office, Copenhagen. At the end of the year an important conference of tuberculosis workers from the Eastern Mediterranean, South East Asia, and Western Pacific Regions was held at Alexandria, Egypt.

Venereal diseases and treponematoses

As in previous years, mass treatment with repository penicillin preparations was the most powerful weapon in fighting venereal infections and treponematoses and served as the basis of many WHO assisted control projects.

Aid continued to be given to yaws control programmes in Haiti, Indonesia, the Philippines, and Thailand, to the bejel control project in Iraq, to efforts to control endemic syphilis in Bosnia, Yugoslavia, and to general venereal disease control in Afghanistan, Burma, Ceylon, Guatemala, and Pakistan. Projects were initiated in Ethiopia, Laos, Paraguay, Saudi Arabia, and South India. A venereal disease control project was completed in Egypt, and a consultant finished his assignment in Israel. Foundations were laid for international courses in venereal disease control to be given at the port demonstration and training centre at Rotterdam, the Netherlands. Consultants visited China (Taiwan), Hong Kong, and the Philippines to advise the governments on the improvement of venereal disease-control services, and Nigeria and Uganda to study the extent and nature of the treponemal disease problems.

In collaboration with the Government of Thailand and UNICEF, WHO sponsored the first International Symposium on Yaws Control, which was held in Bangkok in March and which was attended by workers from more than thirty countries.

Virus and rickettsial diseases

The WHO network of influenza laboratories continued its studies on the worldwide epidemiology and control of influenza. In smallpox laboratory investigations of the keeping qualities of dried smallpox vaccines

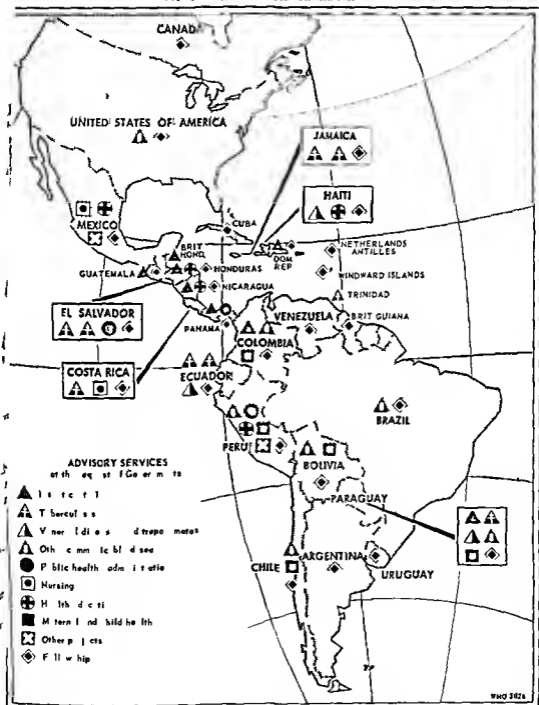
FIG 4 VENEREAL DISEASE



A team member prepares to take blood samples in the campaign against endemic syphilis in Bosnia, Yugoslavia

were initiated and smallpox control was added to the projects for ankylostomiasis control in Paraguay and diphtheria pertussis immunization in Colombia. A project for the rehabilitation of handicapped children in Japan was expanded to include the victims of poliomyelitis. Pilot projects for the control of trachoma were started in China (Taiwan) and were planned for French Morocco and Tunisia with UNICEF assistance. Consultant help was given in Egypt, Hong Kong, the Philippines, Sarawak, and Yugoslavia. Typhus control projects through the use of DDT dusting powder were continued with UNICEF aid in Bolivia and Peru, and in Afghanistan the campaign begun in 1950 was further extended. Advice was published regarding the danger of transmitting virus hepatitis by transfusions and injections and preventive measures were recommended. Extensive insect control campaigns to eradicate the vectors of yellow fever were undertaken in Colombia, Ecuador, Honduras, Nicaragua, Panama, and Paraguay. Aid was given to laboratories co-operating in surveys for

FIG 3 REGION OF THE AMERICAS



Work including joint activities undertaken in 1952

the delineation of the southernmost limits of the yellow fever endemic zone in Africa

Bacterial and parasitic diseases

A conference of heads of laboratories producing diphtheria and pertussis vaccines recommended the vaccines of choice against these diseases

FIG 6 PLAGUE



An antiplague team exterminates rats in the slums of Calcutta

and gave details of their methods of preparation and use Combined immunization campaigns were continued with UNICEF assistance, in Brazil, Chile and Colombia and commenced in Hong Kong Assistance, with UNICEF, in diphtheria vaccine production was given in the Philippines In the Sudan, consultant advice was given on the control of epidemic cerebrospinal meningitis A WHO team undertook research in the control of cholera in Pakistan An ecologist was sent to India to study transmission of plague and a survey was made by a consultant in Indonesia Important

studies on plague were published in the *Bulletin of the World Health Organization*. A survey of leprosy was undertaken in Ethiopia and consultant help and equipment provided in Burma. Control work on bilharziasis was begun in Egypt where field trials of new molluscacides were also carried out and surveys were conducted in several territories in the African Region and in Ethiopia, Iran, Iraq, British Somaliland, Somalia, the Sudan, Syria and Yemen. The control project for the control of ankylostomiasis in Paraguay was continued.

FIG 7 ZOONOSES



At the FAO/WHO Seminar on Zoonoses in Vienna a demonstration is given of x raying a cow for tuberculosis

Zoonoses

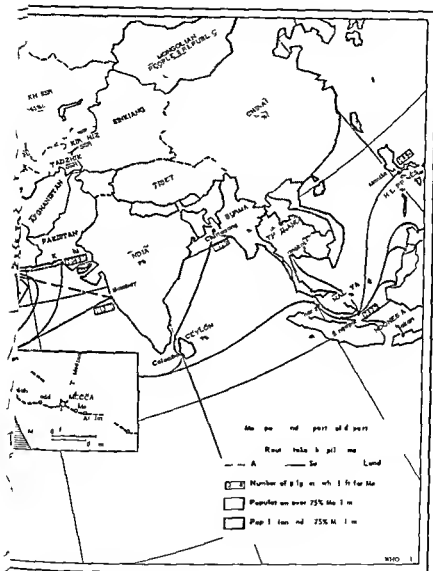
In work on the zoonoses attention was focused on several important diseases of animals which are communicable to man on the development of veterinary public health services in national ministries of health and on meat hygiene. Specifically an FAO/WHO consultant on meat hygiene completed surveys in twelve Latin American countries other consultants visited a number of countries to discuss zoonoses-control problems and was given in projects in Israel and Spain and in rabies-control measures

FIG. 1



This map indicates the main
The Annual Report on the Mecca Pilgr

IMAGE 1951



Map prepared by the pilgrims to Mecca
 was published by WHO in October 1952



and the production of antirabies vaccine in Mexico and a survey on Q fever was continued. Research work was furthered through the FAO/WHO Brucellosis Centres. Three important seminars were sponsored by WHO: one jointly with FAO on zoonoses held in Vienna in November; the second on rabies held in July at Coonoor, Southern India; and the third on brucellosis held in Santiago, Chile.

Strengthening of National Health Administrations

During the year WHO assisted 22 governments in the organization of public health services—by health surveys, the initiation of rural health centres, the planning and establishment of health demonstration areas, and general advice on national and local health services. Advisers gave aid on general public health administration or on specific problems in Afghanistan, Ethiopia, Iran, Iraq, Israel, Liberia, Libya, Peru, and Viet Nam. In many cases WHO co-operated with the United Nations and interested specialized agencies in particular projects.

Environmental sanitation

Increasing attention was given to environmental sanitation in 1952: the advisory services in this field covering municipal and rural sanitation, milk and food sanitation, control of insects, rodents, and other vectors, housing and town planning, environmental sanitation aspects of industrial health, and education and training of personnel for sanitation work.

Special advisers were assigned to Angola, El Salvador, Finland, the Seychelles, and Turkey to assist in the general improvement of sanitation. In Liberia a survey was made preparatory to launching a public health and environmental sanitation project, and a training school for sanitarians was established. In Guatemala aid was given in planning and developing a garbage disposal system in Guatemala City. In Afghanistan a public health engineer helped to improve sanitation services and installations and organized training courses. Training and utilization of personnel for sanitation work was the subject of expert advice given in Egypt and Yugoslavia. Regional advisers on environmental sanitation worked with countries within their regions to discuss problems and plan projects—particularly in Jordan, Lebanon, Libya, and Syria, as well as in Latin America and in the Western Pacific. Sanitary engineers or sanitarians were assigned to cholera, malaria, and bilharzia-control projects in various parts of the world.

Progress was made towards improving milk hygiene by the preparation of a monograph on milk pasteurization and by the organization of a joint WHO/FAO/UNICEF committee on milk and milk products. Special consultants were appointed to assist in the drafting of uniform

FIG 10 EUROPEAN REGION



Work including joint activities undertaken in 1952

standards of water quality standard methods for water examinations and standard procedures in air transport sanitation

Insect control assumed considerable importance in many countries of the Americas where large scale campaigns were undertaken. In Ceylon a WHO entomologist continued work at a training centre for the control of insect borne diseases. The establishment of specifications for insecticides and spraying and dusting operations was continued with the collaboration of the Expert Advisory Panel on Insecticides. In addition studies were carried out during the year on the disinsection of aircraft the behaviour of mosquitos on ships the toxicity of insecticides to man and fly control.

Two seminars on environmental sanitation subjects were held during the year the Third Seminar for European Sanitary Engineers and the First Seminar for Central American Sanitary Engineers.

Nursing

In addition to providing public health nurses for field projects WHO did much to assist countries in developing their nursing services chiefly through aid in training programmes and in the expansion and/or improvement of teaching facilities. In 1952 17 nursing projects started in 1950 and 1951 were continued 22 new programmes were begun. Altogether 97 nurses were in the field. Aid particularly in training activities was given to Afghanistan Brunei Burma Cambodia Ceylon China (Taiwan) Costa Rica India Israel Lebanon Libya Malaya Mexico North Borneo Pakistan Singapore Syria Thailand and Turkey.

A working conference on nursing education was convened by the Organization in Geneva in March the third nursing workshop in the Region of the Americas was held jointly with PASB in Lima Peru during the summer and a first regional seminar on nursing education for the Western Pacific Region took place in Taiwan in November with UNESCO also participating.

Maternal and child health

Demonstration and training projects in maternal and child health aided by WHO and UNICEF were begun or continued in Afghanistan Brazil Burma Cambodia Colombia China (Taiwan) India Pakistan Paraguay Peru Syria and Thailand. WHO assisted in programmes for the care of premature infants in France and Italy and for the rehabilitation of physically handicapped children in Austria Germany Greece Italy Japan Lebanon and Yugoslavia. Progress was made in improving milk sanitation in Finland with a consequent reduction in the prevalence of infant diarrhoea and advice on infant feeding was given in Yugoslavia. Diphtheria/pertussis vaccination campaigns were continued in some of the Latin American countries—Brazil Chile and Colombia for example.

In all, WHO, either with UNICEF or under the technical assistance programme, aided governments with 40 different projects in maternal and child health during the year. The Organization also assisted in a number of courses organized in particular, by the International Children's Centre with which close co-operation was maintained.

FIG. 11. MATERNAL AND CHILD HEALTH



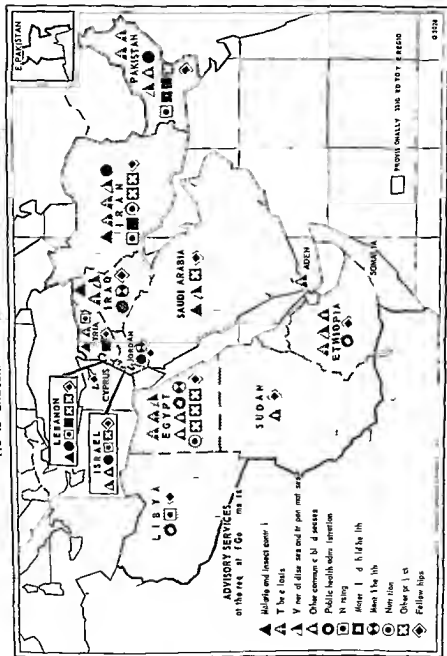
A recently trained midwife gives advice and aid to a mother in Sarawak

Mental health

WHO continued to provide consultant services in mental health to individual countries—for example to Egypt and Iraq for surveys of mental health services; to Austria, for aid in the use of an electro encephalograph provided by UNICEF for a juvenile epilepsy centre in Vienna; to Portuguese India for advice on the layout of a mental hospital; and to Jordan, on the management of a mental hospital.

Copies of the *Yale Abstract Archives of Alcohol Literature* were established in selected libraries in a number of countries in Europe at their request.

FIG 12 EASTERN MEDITERRANEAN REGION



There was a considerable expansion of inter country activities in mental health, the Organization collaborating in seminars on relevant subjects such as child psychiatry (seminar organized in co operation with the Government of Norway) and mental health and infant development (seminar sponsored by the World Federation for Mental Health). In addition, lecturers and fellowships were provided for a number of United Nations seminars.

Social and occupational health

In 1952 the scope of WHO's work in social and occupational health was widened by increasing demands for services in subjects such as medical rehabilitation, medical care aspects of social security, hospital administration and planning hygiene of seafarers, and medico social services. Close co operation was maintained with the United Nations and ILO and assistance given in projects of mutual interest.

Advisers were sent to Egypt, Finland, Iran, Turkey, and Yugoslavia to make surveys and to aid in the organization of occupational health services. The Organization helped the Governments of India and Malaya to find teachers of occupational health, and gave technical advice on medical questions to ILO consultants being sent out on field missions.

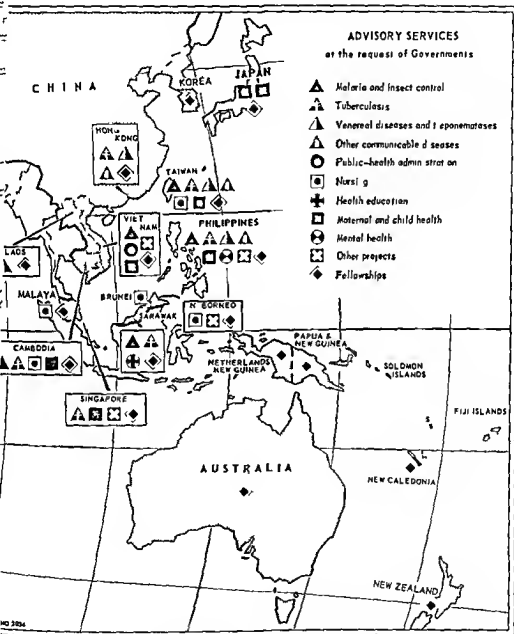
A training course for rehabilitation workers from eight European countries was sponsored by WHO, the United Nations and ILO. WHO provided a consultant for a team which conducted a survey of Latin American countries with a view to organizing a rehabilitation demonstration centre and assisted India and Israel in the development of training centres for physiotherapists.

Services and advice on hospital administration and planning were given to several countries. A consultant on hospital services visited Egypt, a training course for hospital records librarians was organized in Peru, a consultant hospital architect was sent to Viet Nam and a specialist on the administration of a system of drugs and supplies was made available to Ceylon. A limited study of the organization of rural hospitals in different countries was undertaken.

Nutrition

Protein deficiency continued to be the chief problem in nutrition, particularly in the underdeveloped countries. In association with FAO and UNICEF, WHO assisted in a project to provide skimmed milk to mothers and children in the Belgian Congo, French Equatorial Africa and Ruanda Urundi. A survey of the prevalence of protein deficiency was made in Central America and Brazil.

FIG 13 WESTERN PACIFIC REGION



In addition, the Organization continued to support the Institute of Nutrition of Central America and Panama and provided personnel for the Nutrition Institute at Jakarta, Indonesia, sent consultants to Burma, Iran and Yugoslavia, made a third survey of the state of nutrition and diet of the Arab refugees from Palestine, in co-operation with FAO, participated in a conference on nutrition in Africa, and convened a meeting of experts on endemic goitre.

Health education of the public

Many countries have become aware of the importance in health programmes of health education of their people. WHO, in 1952, continued to assist in health education training programmes and field activities in various places including Egypt, Honduras, Nicaragua, Paraguay, Sarawak and Singapore. The Organization also continued co-operation with UNESCO assisted programmes of fundamental education in Ceylon, Egypt and Mexico, and in planning for an expanded programme of health education among the Arab refugees. Aid was given in organizing a national health education conference in the Netherlands and in preliminary preparations for two regional conferences to be held, in 1953, in Europe and the Caribbean region.

Education and Training

1952 marked the first full year of WHO's aid in establishing or strengthening educational institutions. Relevant activities included provision of teaching staff in certain subjects in Afghanistan, India, Pakistan, and Singapore; assistance to anaesthesiology training centres in Denmark and France; advice to Iran by a visiting group of specialists in medical education; aid in the planning for a public health training school for the Scandinavian countries at Göteborg, Sweden, and in the development of a new school of public health in Rome, Italy; and continuation of assistance in public health teaching at the French University in Lebanon.

A valuable means of exchange of scientific information—the sending of visiting teams of medical specialists to various countries—was again utilized in 1952. A team of this type visited Burma, Ceylon and India, giving lectures and demonstrations and sharing experience with colleagues in the host countries.

More fellowships were granted in 1952 than in any previous year: a total of 1,147, as compared with 662 in 1951. Of this number 63% were financed from the regular budget of WHO, 5% were UNICEF fellowships administered by WHO, and 32% were financed through Technical Assistance funds. By Region the distribution of fellowships was as follows: Africa 45, the Americas, 157, South East Asia, 106, Europe 592, Eastern

Mediterranean 131 and Western Pacific 116 69% of the fellowships awarded in Europe were for group training programmes

The subjects of study were again principally those in which WHO is assisting governments to strengthen their health services

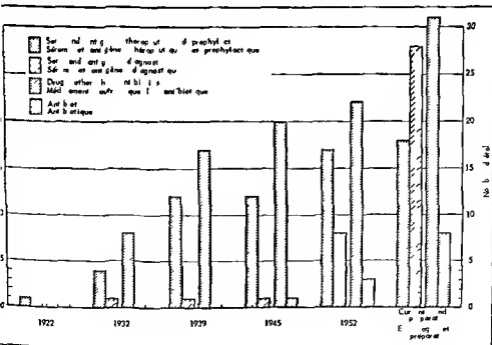
Subject

Public health administration	10
Sanitation	7
Nursing	7
Maternal and child health	9
Other health services	25
Communicable diseases	31
Clinical medicine	10
Basic sciences and education	1
	<hr/> 100

Other Activities

The Organization's work in 1952 also included its regular services relative to epidemiology and health statistics (e.g. fig. 8) drugs and other therapeutic substances (e.g. fig. 14) and helping to procure essential

FIG. 14. THREE DECADES OF INTERNATIONAL WORK ON BIOLOGICAL STANDARDS



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CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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drugs and equipment. With regard to the last, aid was given, with UNICEF, in improving and expanding penicillin production plants in Chile and Yugoslavia, and in establishing an antibiotics production plant in India.

* * *

The report for 1952 is a factual account of the activities of WHO during the year under review. In a special foreword to it, Dr Brock Chisholm, the retiring Director General, comments on the general state of the Organization—which he says has now passed through its formative period—and pleads for freedom from pressure from governments and for world-mindedness on the part of all who serve the Organization.



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SCHEDULE OF MEETINGS

1-2 May Joint Committee on Health Policy UNICEF/WHO, sixth session
Geneva

5-23 May Sixth World Health Assembly, Geneva

Among the subjects on the agenda of the Assembly are consideration of rejections and reservations submitted by governments in respect of their overseas and outlying territories in accordance with Article 106 of the International Sanitary Regulations (WHO Regulations No. 2) report of the Executive Board on its reconsideration of relations with non governmental organizations report of Executive Board on the organizational study relating to regionalization appointment of the Director General and approval of his contract, and technical discussions at future Health Assemblies

28 May Executive Board twelfth session Geneva

EXECUTIVE BOARD ELEVENTH SESSION

The Executive Board was faced with two particularly important problems at its eleventh session (12 January 4 February 1953) the financial position of WHO as a participating agency in the United Nations Technical Assistance programme and the nomination of a new Director General

Technical Assistance Programme

Dr M. Jafar (Pakistan) Chairman of the Board in his opening address sketched the situation with regard to the Technical Assistance programme. WHO had based plans and begun programmes on the assumption that substantial Technical Assistance funds would be allocated to it. Now as a result of an examination of the working of the Technical Assistance programme by a special commission the Organization had been asked by the Technical Assistance Board (TAB) to reduce expenditure on existing and future projects. Dr Jafar felt that health had in this examination been given a relatively low priority in the development of the economic and social aspects of life which were it would seem dependent upon the proper development of health. WHO had made an excellent start in reaching areas sometimes far flung and untouched where millions were living in misery and ill health and a readjustment of the Organization's programme would deprive these people of aid which they had begun to think was close at hand. In addition it would be difficult to tell governments which had provided counterpart funds for all projects already planned that WHO could no longer meet its commitments. The Organization could not continue to work in this state of uncertainty and the Board was urged to present its views forcefully before the United Nations Economic and Social Council.

A working party was formed to consider the whole question of Technical Assistance and to formulate resolutions for the Board's adoption. The resulting resolutions expressed the Board's concern with regard to certain administrative developments such as (1) the responsibility given to the Executive Chairman of the TAB and to the TAB to examine and approve programme proposals and projects submitted by WHO and to appraise the effectiveness of programmes which are technically the responsibility of the Organization (2) the costs involved in maintaining the complicated administrative structure of the Technical Assistance programme and (3) the advisability of appointing Resident Technical Assistance Representatives in view of the present financial situation and in particular of the fact

that it is WHO's constitutional responsibility to serve as the directing and co-ordinating authority on international health work. The Director General was requested to bring the views of the Executive Board on these administrative matters to the attention of the TAB and to continue to carry out WHO's part of the Technical Assistance programme with the greatest possible economy in central administrative and indirect operational costs so that any savings which might be realized on the amount earmarked for the Organization for these purposes might be used for health projects.

In addition, after considering the financial resources available or expected to be available, for the Technical Assistance programme in 1953 the Board authorized the Director General to continue all projects and activities at present in operation and to proceed with the implementation of those projects not yet started for which certain commitments had already been made. It also requested that he call the attention of the TAB and its Executive Chairman to the desirability of (1) making governments aware of the critical financial situation, (2) requesting the participating organizations to arrange jointly to concentrate and co-ordinate their efforts to obtain increased contributions from governments and (3) considering the possibility of a campaign to raise additional funds by an appeal to the general public.

Reviewing the development of the health aspects of the Technical Assistance programme as a whole, the Executive Board extended and amplified the priorities adopted at its sixth session, according to the following criteria:

1 Assistance in the health field should be designed primarily to strengthen the basic health services of the country and to meet the most urgent problems affecting large sections of the population, with due regard to the stage of social or economic development of the country concerned.

2 Efforts should be directed towards measures of preventive as compared with curative medicine, recognizing fully that the line between preventive and curative medicine is a tenuous one, and that for the development of optimal health programmes in some instances activities more directly related to curative medicine must be undertaken.

3 Professional and technical training and education, including assistance to educational institutions and fellowships directly related to projects for economic and social development, preferably a part thereof, should form essential elements of the programme. Emphasis must be laid on the training of nurses and auxiliary personnel in giving assistance to national training schemes for the development of national and regional training programmes as particularly needed by the underdeveloped countries.

4 Control of major communicable diseases should be directly related to improving the health of the population for productive purposes.

5 Development and improvement of the standard of environmental sanitation is essential for the improvement of health and the raising of the standard of living especially when undertaken in relation to social industrial or agricultural schemes

6 Other basic factors for the promotion of a healthier and therefore a more productive population should include such measures as health education of the public improvement of maternal and child health and nutrition

7 Measures should be taken to mitigate the probable consequences of economic changes concurrent with economic and social development Social and occupational health measures must not therefore be ignored

8 Demonstration and pilot projects of limited duration applying new methods and techniques and designed to act as catalysts and to produce an impact on the country should be undertaken since they offer an effective means of quick and successful transfer of knowledge

Attention was again called to the importance of equitable geographical distribution of the assistance which can be made available to countries taking into account their ability to absorb such assistance

Nomination of Director General

The second item of great importance before the Board was the nomination of a successor to Dr Brock Chisholm Director General The members of the Board paid tribute to the role which Dr Chisholm had played in the growth of WHO and expressed the Organization's debt to him

According to the WHO Constitution the Director General is to be appointed by the Health Assembly on the nomination of the Executive Board The nomination of a successor to Dr Chisholm was complicated by the fact that the Rules of Procedure contain no precise directive for voting on this matter and that the procedure adopted would therefore establish a precedent After considerable discussion the Board decided that

(1) a list of candidates should be established by secret ballot and the names presented in alphabetical order

(2) a series of secret ballots should be taken each member of the Board writing down the name of a single candidate which he would choose from the list of candidates which had been established The name of the candidate who received the least number of votes would then be eliminated at each balloting

(3) when the number of candidates had been reduced to two there would be as many ballots as were necessary to secure a majority for either candidate In the event of a tie between the remaining candidates after three votes the whole procedure was to start again

In a secret session of the Board Dr M G Candau (Brazil), Assistant Director of the Pan American Sanitary Bureau, was nominated for the post of Director General. His name will therefore be presented to the Sixth World Health Assembly.

Programme and Budget

The Board at its tenth session, had decided that it would not maintain a separate Standing Committee on Administration and Finance in its consideration of the programme and budget for 1954. Thus at this, its eleventh session the entire Executive Board constituted itself a "Standing Committee on Administration and Finance" and in plenary session reviewed the proposed programme and budget in considerable detail with the aid of working parties as required. It approved a programme which continues present activities, within the framework of a four year plan for world health, and a regular working budget for 1954 in the amount of \$8 547,202, which represents an increase of 0.73% over the budget for 1953.

Further Action on General World Health Problems

In a report to the Board, the Director General drew attention to the need for the advisory services provided to governments to be integrated into wider regional—or even world—programmes. It was felt that WHO had reached a stage at which it should give more emphasis to its role in co-operation with all governments, of tackling world health and medical problems not only through the necessary and valuable form of direct assistance to governments, but also through concerted international action. Accordingly the Board recommended that the Sixth World Health Assembly consider adoption of the Director General's suggestion that WHO should stimulate certain worldwide programmes and that a campaign against smallpox would be suitable for such a programme. The Director General was requested to submit to the Assembly a study on ways of carrying out such a campaign.

Other Business

The Board undertook two special studies during this session—one on regionalization and the other on education and training programmes. It was recommended that the subject for study at the thirteenth session should be Programme Analysis and Evaluation.

With regard to regionalization, the Board expressed its satisfaction with the development of the organizational structure and functioning of the

regional offices recommended that as from 1955 WHO should reimburse the travelling expenses of delegates to the regional committee meetings (for one representative from each Member State and each Associate Member) and suggested that regional committees should meet at regional headquarters every alternate year to limit the cost of the meetings

The problem of the rules and criteria to be adopted for determining the assignment of territories to WHO Regions was referred to the Health Assembly. The Board expressed regret that the Regional Committee for the Eastern Mediterranean was again unable for non technical reasons to convene a session in 1952 and requested that the Director General ask the Member States of the Region to express their views on the situation and to suggest solutions. This question too is to be placed before the Sixth World Health Assembly.

Another problem which gave rise to considerable discussion was WHO's relationship with non governmental organizations. It was decided however that there were aspects on which the Assembly alone was competent to take a decision and the Assembly was therefore invited to consider this problem.

Among the numerous other items discussed by the Board were

(1) the work of the Tuberculosis Research Office on BCG vaccination which was praised and concerning which further co operation with other interested groups was recommended

(2) technical discussions at future health assemblies

(3) facilitating the resumption of active participation by Nationalist China in the Organization by accepting an extraordinary reduced contribution and

(4) reports of expert committees—on bilharziasis brucellosis (joint FAO/WHO) influenza hepatitis venereal infections and treponematoses occupational health (joint ILO/WHO) biological standardization International Pharmacopoeia and its subcommittee on non proprietary names and professional and technical education of medical and auxiliary personnel

Final decisions on many of the questions considered by the Executive Board will rest with the Sixth World Health Assembly. A complete account of the Board's work at its eleventh session has been published in No. 46 of the *Official Records of the World Health Organization*.

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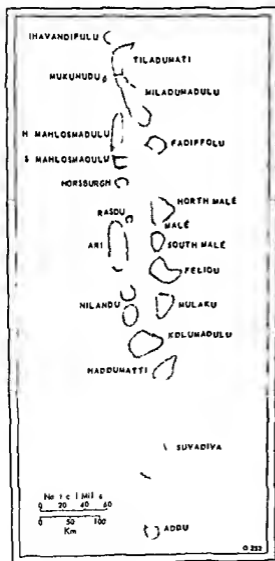
The Board bid farewell to its Chairman Dr M. Jafar and to the other five members whose three year mandate expires in May—Dr J. Allwood Paredes (El Salvador) Dr A. L. Bravo (Chile) Professor G. A. Canaperia (Italy) Dr S. Daengsvang (Thailand) and Professor J. Parisot (France).

The next session of the Board will begin on 28 May 1953 in Geneva.

FILARIASIS SURVEY IN THE MALDIVE ISLANDS

A striking example of WHO aid which has reached "far flung untouched areas" is furnished by the survey of filariasis which was conducted by a three man team in the Maldive Islands, 420 nautical miles (780 km) south west of Ceylon. These 2 000 islands, of which only 213 are inhabited are grouped in 19 atolls of different sizes separated from one another by stretches of the Indian Ocean. They are inaccessible to the ordinary traveller inasmuch as there is no steamer service, all travel and transport are by means of small sailing boats which ply between Ceylon and the islands and among the various atolls.

FIG 1 FILARIASIS SURVEY IN THE MALDIVES



To accomplish its survey of 34 islands and villages scattered among five different atolls the WHO team utilized a schooner (see fig 3 and 4) provided by the Maldivian Government visiting as many islands as the prevailing wind facilitated. The expedition nearly ended in disaster when, in an attempt to sail to Ceylon after the investigation had been completed the small craft was caught in a cyclone which lasted 42 hours. After fifteen days at sea the schooner succeeded in regaining Male, the capital of the Maldives. The team members were eventually taken to Karachi by a steamer which deviated from its course to pick them up. An account of the investigation and its findings has been written by the leader of the WHO team Mr M O T Iyengar of Calcutta, and has been published in the *Bulletin of the World Health Organization*.¹

FIG 2 FILARIASIS SURVEY IN THE MALDIVES



Magaddu one of the Islands of Suva a Atoll view d from th lagoon

Investigation Procedure

The investigation of the WHO team included a house to house survey at night of a representative sample of all population groups in which physical examinations were made and blood smears taken and a study of mosquitos made during the day. Records were maintained of every person examined these giving the name age sex occurrence of signs of filarial disease and presence of microfilariae in peripheral blood taken at night. The field mosquito surveys consisted of examination of water collections for mosquito breeding collection of adult and larval mosquitos to determine the relative incidence of the different species and studies of the bionomics of the mosquitos.

A small laboratory was set up in the cabin of the schooner. There blood smears were examined larval and adult mosquitos were identified and dissections of adult female mosquitos were made to determine the vectors and their natural infection rates.

Findings of the Survey

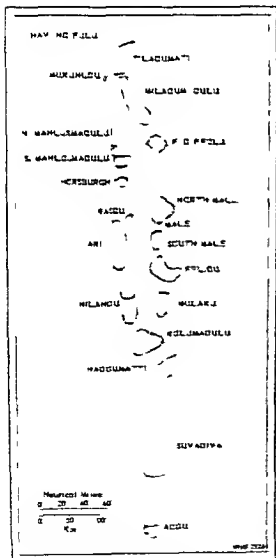
The disease

The investigation showed that filariasis is endemic in the three southern atolls of the Maldives—Haddumattu Suvaiva and Addu. Out of 3 950

FILARIASIS SURVEY IN THE MALDIVE ISLANDS

A striking example of WHO aid which has reached "far-flung, untouched areas" is furnished by the survey of filariasis which was conducted by a three-man team in the Maldive Islands, 200 nautical miles (730 km) south-west of Ceylon. These 200 islands, of which only 212 are inhabited, are grouped in 14 atolls of different sizes, separated from one another by stretches of the Indian Ocean. They are inaccessible to the ordinary

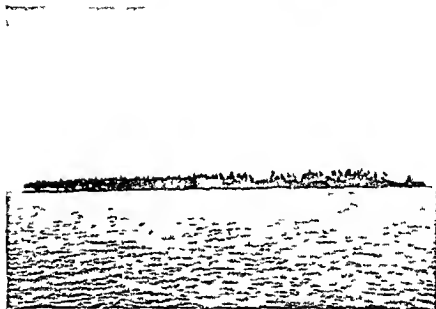
FIG 1. FILARIASIS SURVEY IN THE MALDIVES



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To accomplish its survey of 24 islands and villages scattered among five different atolls, the WHO team utilized a schooner (see fig. 2 and 3 provided by the Maldivean Government, visiting as many islands as the prevailing wind facilitated. The expedition nearly ended in disaster when, in an attempt to sail to Ceylon after the investigation had been completed, the small craft was caught in a cyclone which lasted 42 hours. After fifteen days at sea, the schooner succeeded in regaining Male, the capital of the Maldives. The team members were eventually taken to Karachi by a steamer which deviated from its course to pick them up. An account of the investigation and its findings has been written by the leader of the WHO team, Mr. V. O. T. Iyengar, of Calcutta, and has been published in the *Bulletin of the World Health Organization*.¹

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Magaddu one of the islands of Su adiva Atoll viewed from the lagoon

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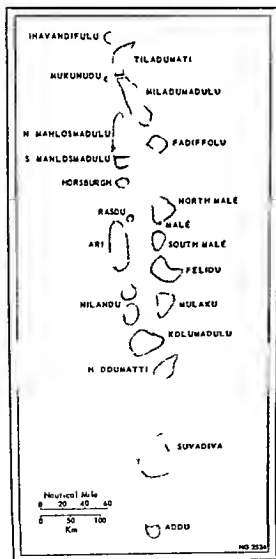
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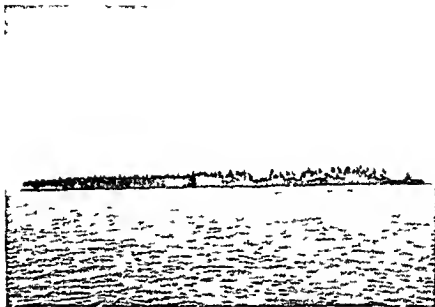
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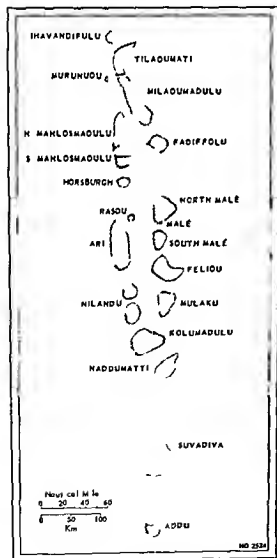
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Magaddu one of the islands of Suvadiva Atoll viewed from the lagoon

Investigation Procedure

The investigation of the WHO team included a house to house survey at night of a representative sample of all population groups in which physical examinations were made and blood smears taken and a study of mosquitos made during the day. Records were maintained of every person examined these giving the name age sex occurrence of signs of filarial disease and presence of microfilariae in peripheral blood taken at night. The field mosquito surveys consisted of examination of water collections for mosquito breeding collection of adult and larval mosquitos to determine the relative incidence of the different species and studies of the bionomics of the mosquitos.

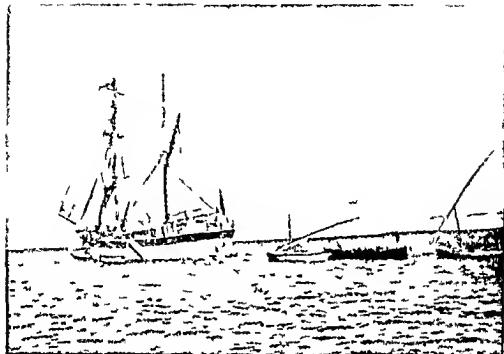
A small laboratory was set up in the cabin of the schooner. There blood smears were examined larval and adult mosquitos were identified and dissections of adult female mosquitos were made to determine the vectors and their natural infection rates.

Findings of the Survey

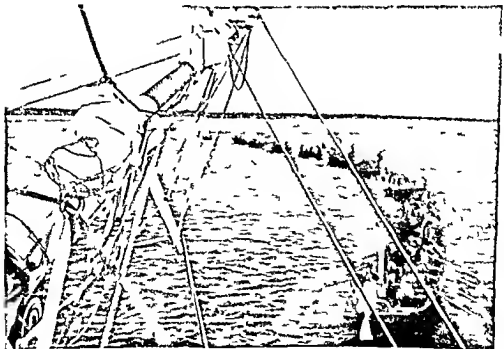
The disease

The investigation showed that filariasis is endemic in the three southern atolls of the Maldives—Haddumatti Suvadiva and Addu. Out of 3 950

FIG 3-4 FILARIASIS SURVEY IN THE MALDIVES



The schooner in which the WHO team travelled from island to island



Twelve row boats towing the schooner from one part of the lagoon to another in Suvedive Atoll. Owing to lack of wind the schooner had to be towed on several occasions

persons examined during the survey 939 cases of filariasis were recorded. Elephantiasis of the leg was the most common manifestation of the disease (fig 5) although there was a high incidence of genital affections among the males. Night blood smears of 5 828 persons revealed a gross filarial infection rate of 17.9 %.

FIG 5 FILARIASIS IN THE MALDIVES



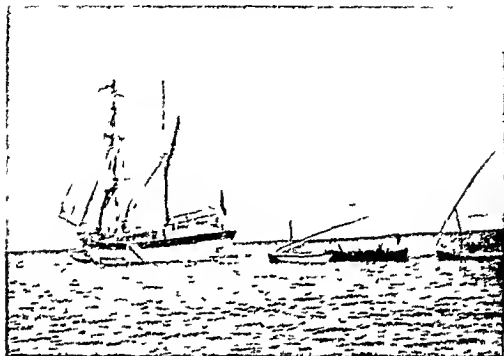
Elephantiasis (advanced stage) of right leg

The filarial disease rate showed a progressive rise with age (see fig 6). It was found that filarial infection occurred at a much earlier age than filarial disease and that there was a rise with increase in age up to the 21-30-year age group, after which the curve tended to flatten out.

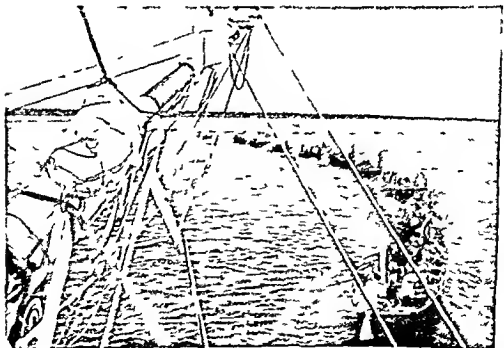
The cause

Filarial infection in the Maldives is due to *Wuchereria bancrofti*. In the study of the 13 species of mosquito which were found on the islands, 6 species were observed to be naturally infected with filaria larvae. The observations indicated that *Culex fatigans* and *Anopheles tessellatus* were

FIG 3-4 FILARIASIS SURVEY IN THE MALDIVES



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Twelve row boats towing the schooner from one part of the lagoon to another in Suvadiva Atoll. Owing to lack of wind the schooner had to be towed on several occasions.

in camps on the outskirts of the villages caused considerable hardship to those concerned and to their relatives and dependants as well

The WHO team called the attention of the authorities to the complete uselessness of segregating cases of elephantiasis and was able to suggest simple and economical measures for control of the disease Since control

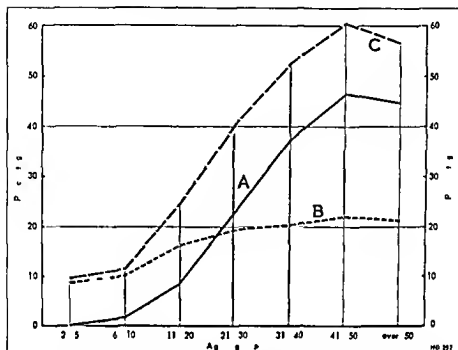
FIG 7 FILARIASIS IN THE MALDIVES



A step well, being place of the principal vector of filariasis in the Maldives. The sea level water is fairly high—about 4 feet (1 metre) from ground level

must be based on preventing the transmission of filarial infection the problem is one of controlling the insect vector. It is believed that this can be achieved in the Maldives by (1) filling up all the step wells which are the breeding places of *C fatigans* and (2) mosquito proofing all ordinary wells where *A. tessellatus* may breed

FIG 6 FILARIASIS IN THE MALDIVES



Incidence according to age group of filarial disease (A) filarial infection (B) and filarial endemicity (C)

the efficient vectors of *W. bancrofti* infection, the former being of primary importance

The conditions in the Maldives are such that normally there would be little breeding of *C. fatigans* and consequently, little or no endemic filariasis. The high filarial endemicity is due to conditions entirely man made, which favour intensive breeding of the vector *C. fatigans*—namely, the creation of step wells (see fig 7) and the contamination of these wells with organic matter. There was found to be a definite correlation between the number of step wells and the filarial endemicity rate in a village. Other factors which contribute to the high endemicity observed in the southern atolls of the Maldives are that climatic conditions are such that transmission of the infection is possible throughout the year, and that the breeding places—the step wells and wells—are perennial and hold water even during the dry season.

Control Measures

It was found that a system of segregating cases of elephantiasis of the leg was enforced in the Maldives as a means of controlling the disease the inhabitants mistakenly believing that the disease was contagious—that even to walk where a diseased foot had trodden would bring on filariasis. This segregation which meant the isolation of persons with elephantiasis

ing a nurse to meet the needs of her community Three problems were dealt with in detail

(1) Correlation of theory and practice It was felt that the most essential part of a student nurse's training is obtained in the ward not in the class room and that the ideal way to teach clinical nursing is to centre it around the patient

(2) Supervision of students in practice For the improvement of nursing care This supervision was defined as a process of working together between the supervisor and the student for common goals for helping the student to achieve "independent thinking sound judgement intellectual resourcefulness and self mastery" and for stimulating her "to grow and develop in effectiveness"

(3) Integration of social and public health aspects of nursing into the basic curriculum It was concluded that the integration of these aspects of nursing could be effected by taking the curriculum as it stands and calling attention to relevant factors in each subject as it is taught and practised

The third study group based its discussions of teaching methods on the following definition of nursing Nursing in its broadest sense may be defined as an art and a science which sees the patient as a whole—body mind and spirit promotes his physical mental and spiritual health by teaching and by example emphasizes health education and the preservation of health as well as the care of the sick involves the care of the patient's environment—social and psychological as well as physical provides for the health care of the family the community and the individual The goal of nursing education was considered to be to produce a nurse capable of carrying out the duties which this definition implies Ways of achieving this goal were outlined including methods of promoting the development of the desired attitudes, and of teaching the basic theory and skills which nursing requires

The meetings of the fourth study group on interpersonal relationships were essentially a sort of short course in mental hygiene Discussions were centred on two major subjects interpersonal relationships involving the people with whom the nurse must often work and the creation of an environment in which the personality of the student nurse may be given an opportunity to develop fully To get the viewpoint of another representative of the medical team of which the nurse is a part this group invited a doctor to participate in one of its sessions

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NURSING EDUCATION SEMINAR IN TAIWAN

A need for a seminar on nursing education in the Western Pacific Region was first felt in early 1951 when the WHO Regional Nursing Adviser visited various countries and was asked questions regarding nursing practice and training elsewhere in the Region. Plans began to be formulated for affording nursing leaders and teachers an opportunity to meet and discuss their common problems in the hope of finding some solutions and of learning from each other. Final fruition came in November 1952 when a "workshop" on nursing education was held in Taipei, Taiwan under the sponsorship of WHO and with the Government of China (Taiwan) acting as host.

Eleven countries of the Region were represented by the 29 seminar-participants who were all graduate registered nurses actively engaged in nursing education. The three-week seminar proper was preceded by two weeks' training of nine of the participants who constituted a "pre-planning committee" and who met to become familiar with the workshop procedure and to discuss plans for the seminar. Members of this committee formed a nucleus of leaders to direct the study groups which were subsequently set up during the course of the seminar.

The problems to be treated at the seminar were decided upon by exploratory groups and by general discussion. They narrowed down to four major subjects: (1) training nurses in underdeveloped areas or among primitive people, (2) curriculum planning based on local needs and goals, (3) teaching methods, and (4) interpersonal relationships. Each individual participant chose one of these subjects for study, and groups were established, ranging in size from four to nine persons. Each study group worked independently setting up its own organizational plan and arranging its own time schedule. Field trips and visual aids were used and various teaching materials were demonstrated.

The first study-group which considered the training of nurses in underdeveloped areas asked questions such as: To what extent does the cultural pattern of the people who are working to develop nursing in a particular country influence the leadership they give? and What knowledge and skills are needed by nurses in countries which are just beginning to improve nursing education and services? It was concluded that long detailed study would be necessary to improve the status of nursing in underdeveloped areas and that answers to the fundamental questions which were posed would differ from place to place.

In the discussions of the second group on curriculum planning the central objective was "to consider the principles of a balanced curriculum" taking into account the number and the educational standard of the students available, the teaching facilities, the socio-economic and cultural background of the students, and, most important, the necessity for educat-

ing a nurse to meet the needs of her community Three problems were dealt with in detail

(1) **Correlation of theory and practice** It was felt that the most essential part of a student nurse's training is obtained in the ward not in the class room and that the ideal way to teach clinical nursing is to centre it around the patient

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Among the conclusions which were reached at the seminar and which were expressed primarily in the reports of the study groups were the following

1 Since nursing is an integral part of the community in which it is being developed it is essential that nursing education be based upon the

situation and needs in the particular country. Therefore, curriculum, teaching methods and teaching materials cannot be taken from one place and transplanted in another. They need to be based on the actual functions the nurse is called upon to perform.

2. If student nurses are to become good nurses, they should practice in situations where nursing care and nursing service are of the highest quality attainable in the country, since students learn more from what they see practised than from what they are taught in the classroom. This means that nursing service, nursing service administration and hospital administration need to be developed concurrently with nursing education.

A high quality of nursing is possible only when (a) harmonious working relationships and team work exist, (b) there is a sufficiently large staff of qualified nursing personnel, (c) lines of responsibility and authority are clearly defined, (d) individuals in the organization participate in the formulation of policies which govern them, and (e) supplies and equipment are adequate.

A special effort was made to evaluate the effectiveness of the workshop method of teaching in a seminar of this kind, it was generally agreed that it had provided a valuable learning experience. Thus the first workshop on nursing education in the Western Pacific Region, served as a "proving ground" for future seminars utilizing the same approach.

Reports of Expert Groups

INFLUENZA

Influenza is one of the most important infectious diseases still unconquered. Even in its present relatively mild form it can cause great economic loss and dislocation of essential services, especially as its ill effects are commonly concentrated within a few weeks. Observations and recommendations regarding the influenza viruses and the prevention and control of the disease are contained in the first report of the Expert Committee on Influenza, which has appeared as No. 64 in the *Technical Report Series*.¹

¹ World Health Org. *techn. Rep. Ser.* 1952, 64. Published in English and in French. Price 1/6, \$0.75, or \$0.50.

Study of Influenza Viruses

Strains

There is a wide range of antigenic variation in the influenza virus strains isolated thus far they appear to have no stability in nature and the mechanism by which new variants emerge is not known Strain differences were first recognized in 1938 knowledge concerning the nature and properties of the strains responsible for previous epidemics is incomplete

Despite different methods of studying antigenic properties of the viruses and the lack of a standardized procedure for antigenic analysis of strains general agreement has been reached on a classification of the viruses now known adoption of this classification is recommended by the committee The viruses are classified into three main groups (A B C) which are subdivided into groups named after their prototype viruses and the date of their isolation

	WS	(1933)
Virus A	PR8	(1934)
	FM1	(1947)
	Lee	(1940)
Virus B	Bon	(1947)
Virus C	1233	(1947)

Although it is not known whether or not there has been a continuous variation of strains in the past study of the antigenic properties of strains which may be isolated in the future is most important since new strains may suddenly emerge which may have epidemiological significance

Typing of strains

The report contains instructions to laboratories regarding the collection preparation and distribution of specimens the typing of strains and the designation of newly isolated strains It is recommended that each designation include the group to which the strain belongs (A B C) the country State or large city in which it was recovered a serial number and the year of isolation (e.g. A/Ankara/6/51)

Studies on viruses A and B and lists of strains have been published in the *Bulletin of the World Health Organization* ²

Standard Diagnostic Procedures

For clinical diagnosis it is necessary to determine only which type of infecting virus is concerned The complement fixation test employing the so-called soluble antigens A or B will distinguish between the two principal viruses

The haemagglutination inhibition test is relatively more specific than the complement fixation test and is preferred for the precise determination of types. It requires considerable precautions however and is affected by the presence in the serum of non specific inhibitors³. Details regarding these test procedures are found in annexes to the report.

The committee stresses how necessary it is for laboratories to have at their disposal standard reagents for diagnostic tests, and it recommends that WHO study this problem and seek means for its solution.

Control Methods

Vaccines

Past experience has shown that it is possible to reduce the incidence of influenza by means of immunization. However, in the opinion of the committee, influenza virus vaccination is still an experimental procedure since success or failure is dependent upon a number of different factors which demand further investigation.

The antigen must bear a definite relationship to the type of virus against which protection is desired. It is not possible at present to recommend the selection of particular strains for incorporation in the vaccine—a mixture of types A and B, a vaccine of a single type (monovalent) a mixture of selected strains etc.—and it is desirable that research on this subject be carried out.

All recent experiments have involved the use of inactivated virus produced by egg cultivation, suspended in physiological saline or buffer. An emulsion in mineral oil (adjuvant vaccine) has been introduced which seems to result in greater antibody production and to be longer lasting and effective against a wider range of antigens than a vaccine in saline solution. One advantage of adjuvant vaccine is that it might be able to produce immunity with very small quantities of virus antigen which might be of critical importance in the rapid production of vaccines during a virulent epidemic of influenza. It should be noted however that the safety of the adjuvant vaccine has not yet been proven.

Therapy

At present there is no specific treatment available for influenza virus infections. The most dreaded pulmonary complications are due to the staphylococcus. Influenza virus staphylococcal pneumonia, unlike pneumococcal infections may be relatively unresponsive to penicillin and other antibiotics. Therefore high dosage of penicillin at frequent intervals is essential, and treatment must be commenced at a very early stage of illness.

Experience with aureomycin oxytetracycline ⁴ and chloramphenicol is still inadequate for a comparison to be made between their effectiveness and that of penicillin but one or the other should of course be used in cases of infection which are resistant to penicillin

Mortality in influenza epidemics probably depends in part upon the character of the virus The exact measure of success to be expected with any antibacterial agent is therefore somewhat unpredictable

Measures against severe epidemics

General control measures for combating recent severe epidemics of influenza have been based primarily on standard public health procedures—restriction of movement of individuals avoidance of crowds in cinemas public meetings etc and provision of extended hospital services Quarantine measures within a community have not been shown to be of value On a national level quarantine would be likely to be effective only on islands or in geographically isolated communities

The principal obstacle to the use of vaccines in relation to control of epidemics is that of producing them rapidly enough and in a sufficient quantity for widespread use Otherwise they offer considerable promise The committee recommends that WHO undertake a survey of the potential production capacity of influenza vaccines throughout the world

Notification

Since the spread of an influenza epidemic which may suddenly assume serious proportions is very rapid it is desirable that national health authorities be informed when an unusual number of cases of influenza appears within their territory a neighbouring region or a country with which there is frequent contact The reporting of individual cases which is appropriate for diseases such as typhoid fever cannot be applied easily to influenza since many cases escape medical attention Also the system of notification varies from country to country in some influenza is not a notifiable disease in others only epidemics are reported and in still others notification of individual cases is compulsory Thus morbidity figures mean little and there can be no real comparison of the figures originating in different countries What is needed is a way in which an abnormal prevalence of influenza (or influenza like conditions) can be detected promptly and the course of the epidemic followed with the least possible delay An indication of the incidence of influenza in a region can be readily obtained from local information based upon the daily records of absenteeism in one or more industrial plants or among public transport workers or in

⁴ Oxytetracycline is the commercial proprietary name for Terramycin (see Ch. IV. 14) *Health* O. 7 1953 7 41)

schools the number of new insurance claims where social insurance covers the bulk of the population, and the requests for admission to hospital especially for pneumonia, etc. Several countries have instituted a trial scheme in which a selected sample of practitioners voluntarily report to the local health authority the number of cases of influenza like disease treated daily.

Relevant Activities of WHO

The report indicates what arrangements are provided by WHO for the distribution of information concerning influenza through its epidemiological information services network of influenza laboratories and the World Influenza Centre⁵.

In addition to the previously mentioned activities in which WHO participates or should participate it is suggested that the Organization lend its support to the training of an increasing number of laboratory workers specializing in research on influenza to the rapid exchange of information and to the publication of informative papers on the diagnosis and treatment of influenza and its complications.

⁵ See Chron. World Hlth Org. 1951, 4, 51.

Review of WHO Publications

COMPARATIVE STUDY OF HEALTH LEGISLATION COMMUNICABLE DISEASES IN SCHOOLS

In the report on its first session¹ the WHO Expert Committee on School Health Services stated: "Communicable-disease control has always been a prime concern of schools and school health workers. It is important that schools be prepared to change their regulations as scientific advances are made. Too often time-consuming practices are continued long after they are outmoded. A recent study in the *International Digest of Health Legislation*"² gives a brief outline of the measures adopted in a number of countries for the prevention of the propagation of communicable diseases in schools. In general the sources of information are legislative texts promulgated between 1947 and 1951 and published in the *Digest*.

¹ World Hlth Org. techn. Rep. Ser. 1951, 30, 11, 1.
² *Int. Dig. Hlth Leg.* 1952, 4, 169.

This study presents in tabular form a comparison of the isolation and quarantine measures applied in connexion with 12 communicable diseases in 11 countries and territories. The diseases are chickenpox, diphtheria, dysentery (bacillary), measles, meningococcal meningitis (cerebrospinal fever), mumps, poliomyelitis, rubella, scarlet fever, smallpox, typhoid fever, and whooping cough. The countries covered by the study are Australia, Denmark, France, Lebanon, New Zealand, Switzerland (Canton of Vaud), Tunisia, Union of South Africa, United Kingdom of Great Britain and Northern Ireland, and the USA (States of Iowa and Virginia and New York City).

The measures applied by the States of Iowa and Virginia are those recommended by the American Public Health Association in the seventh edition of its handbook *The control of communicable diseases in man* (1950). As far as France is concerned, reference is made to two series of measures which demonstrate French developments in this field. The first series, taken from the handbook by R. Liège, entitled *Pratique médicale scolaire*, published in Paris in 1948, concerns legislation generally in force up to 1950; the second, new legislation enacted since 1950. The *Handbook of communicable diseases for the use of medical officers of schools*, published in London in 1948, is the source of information with regard to the United Kingdom.

School legislation in all the countries in question provides for the quarantine of schoolchildren suffering from communicable diseases and of their contacts, but the period of compulsory isolation and quarantine varies considerably from country to country. In the case of diphtheria, for example, the compulsory period of isolation of the patient ranges from 7 to 30 days; in meningococcal meningitis, quarantine of contacts may last from 8 to 20 days, according to the country.

The divergencies in the legislative provisions are apparent also in the definition of the term "contact". In some cases this includes all the persons living in the same household as a patient suffering from a communicable disease; in others the brothers and sisters who have not "acquired immunity by a previous attack"; and in still others, classmates and teaching staff. Very often the measures covering contacts differ according to whether the patient has been evacuated or is being nursed at home.

On the whole, it is to be noted that there is a tendency to diminish the rigour of isolation and quarantine measures. In France, for example, the period of isolation for meningococcal meningitis has been reduced from 40 to 20 days, and that for rubella from 16 to 8 days. The reason for this tendency is threefold:

1. There is a growing inclination to fix the period of isolation on the basis of laboratory rather than clinical findings. For example, in so far as diphtheria, meningococcal meningitis, and typhoid fever are concerned

the legislation in nearly all countries makes bacteriological examination the criterion to be followed when bacteriological examination gives a definitely negative result, isolation may be discontinued and the child re-admitted to school

2 The use of sulfonamides and antibiotics has considerably shortened the duration of most of the communicable diseases of childhood and sometimes prevents the infection of contacts. The legislative provisions of several countries mention these drugs—for example, the States of Iowa and Virginia in connexion with bacillary dysentery (treatment of the patient) meningococcal meningitis (treatment of contacts and carriers) and scarlet fever (preventive treatment of contacts)

3 The periods of isolation and quarantine may be shortened—and, in fact, are so shortened—as public health services, particularly school health services, reach higher stages of organization and development. When a physician and a nurse are attached to a school the isolation of contacts can be replaced at least to some extent, by medical supervision at the school

Even now our knowledge of certain aspects of the communicable diseases of childhood is still inadequate. For example, the lack of exact knowledge concerning incubation periods in part explains the sometimes considerable divergencies in the measures applied to contacts

Another point of interest is that, in at least one country, legislation has been enacted not in order to fix the period of isolation and quarantine but in order to advise against such isolation and quarantine. A footnote in the *Digest* article refers to regulations recently issued in the Canton of Aargau (Switzerland) stating that "in the case of rubella, exclusion from school is inadvisable since this disease is preferably to be contracted at an early age. This viewpoint may be justifiable on the grounds that rubella is dangerous in pregnant women because of its effect on the development of the foetus

The article in the *Digest* also includes a brief study on compulsory vaccination of children and the ages at which such vaccinations are performed in the various countries. Vaccination against smallpox and immunization against diphtheria are the most frequently prescribed measures. Some countries enforce combined antidiphtheria and antitetanus vaccination, while others recommend a triple vaccination against whooping cough, diphtheria, and tetanus

GUIDE FOR STUDIES OF NURSING RESOURCES

WHO has recently published a booklet prepared by a nursing consultant, Miss Margaret G. Arnstein, to aid governments in studying their nursing services and needs. This publication *Guide for national studies of nursing*

*resources*¹ outlines one type of study which will give a general view of the nursing situation in a particular area point to the most urgent problems and provide information on which a country may base its plans for nursing services. It suggests methods of conducting the study questions which might be asked and ways of obtaining answers to them and a means of evaluating the adequacy of the existing nursing education system.

Arnold, M. C. (1933) *Guide for the study of nursing education*. Gen. a. (B. H. W. Id. H. K. O. g. S. p. l. 7) 36 p. g. p. c. 1/- 3020 o. Sw. I. 0.75. Fre. h. e. d. i. t. i. o. n. p. r. e. p. a. r. a. t. i. o. n.

PREVALENCE OF BLINDNESS AND DEAF MUTISM IN VARIOUS COUNTRIES

In the field of morbidity statistics information on the prevalence of organic disabilities and defects of a chronic nature which may have considerable economic repercussions is extremely important. A recent article in the *Epidemiological and Vital Statistics Report*¹ supplies data on the prevalence of blindness and deaf mutism in a number of countries over the past fifteen years or so.

It is recognized that these data are not complete. Population censuses constitute the most common source of information. In fact in some countries census questionnaires have since the beginning of the 19th century included a space in which to indicate whether the person covered by the census form is suffering from blindness deaf mutism or any other mental or physical handicap. The results are not very comparable from one census to another and still less so from one country to another.

The prevalence of these infirmities may also be ascertained through morbidity surveys carried out on a sample basis which seems to give the most accurate information. In certain countries only a rough estimate of the number of blind and deaf mute persons is available. It should also be noted that even the definitions of the terms "blindness" and "deaf mutism" vary from country to country and according to the source of the information.

Blindness is shown to be extremely prevalent in certain territories in Africa and Asia. In Egypt the 1937 census gave 545 blind persons per 100 000 inhabitants; in Nigeria the rate of 549 blind persons per 100 000 inhabitants established on the basis of surveys in four areas appears to be below the real figure. The 1931 census in India gave 172 blind persons per 100 000 inhabitants but a study carried out in 1944 by a special committee showed that the probable rate of blindness in the country was somewhere in the region of 500 per 100 000 persons.

The lowest rates are in America, Europe, and Oceania. In the USA, the 1930 census indicated a blindness rate of 51.7 per 100,000 inhabitants but an estimate made in 1950 by the National Society for the Prevention of Blindness, which defines blindness as 'a visual acuity of 20/200 or less' put the rate at 173 per 100,000 inhabitants. In the same year, the rate in Belgium was 52.5 per 100,000 inhabitants. In the Netherlands, a special survey carried out in 1948 gave a rate of 47 per 100,000. In England and Wales the number of registered blind persons is about 179 per 100,000 inhabitants, which is a much higher rate than in most of the other countries of Western Europe.

Blindness seems to be more prevalent in men than in women except in Mexico and India.

An approximate estimate puts the blind population of the world around 1950 at about 6,576,000 persons.

Less documentation is available on deaf mutism than on blindness; in fact there is no information at all in respect to very important areas. There follow data concerning deaf mutism in certain countries.

Country	Year ^a	Rate of deaf mutism per 100,000 population
Australia	1933 C	35
Belgium	1950 S	59
Canada	1941 C	63
Egypt	1937 C	60
England and Wales	1930 E	85
France	1946 C	47
Honduras	1935 C	138
Iceland	1946 C	76
India	1931 C	66
Japan ^b	1947 S	118
Mexico ^c	1940 C	39
Norway	1930 C	53
Scotland	1930 E	87
Union of South Africa		
(European population)	1936 C	49
USA	1930 C	46

^a The letter which follows the year indicates the source of the data. C = Census. E = Estimate. S = Special survey.

^b Population 5-39 years only.

^c Population 12 years of age and over.

In all the countries covered by this study the rate of deaf mutism is higher in men than in women.

With regard to blind deaf mutes 158 were registered in Canada in 1941 and 1942 in the USA in 1930.

The author of this article states that it is intended only as a preliminary approach to a more detailed study of the prevalence of these and various other infirmities in different parts of the world.

Notes and News

Team of Medical Scientists Sent to Indonesia

A team of thirteen medical scientists from seven different countries is spending April and May in Indonesia in the latest WHO project to bring medical leaders from abroad into contact with those in a host country. The visiting specialists are conferring with Indonesian colleagues in medical colleges, hospitals and various health institutions, giving lectures and demonstrations and participating in surgical operations, ward rounds and informal discussions. Subjects which are being given particular attention are those related to public health and medical education with emphasis on the growing importance of preventive and social medicine.

The Chairman of the visiting team is Dr A. Wallgren, Professor of Paediatrics at the Royal Caroline Institute of the University of Stockholm, Sweden. Other members are: Dr J. S. Barr, Professor of Orthopaedic Surgery, Harvard University, USA; Mr E. Boyce, Professor of Public Health Engineering, University of Michigan School of Public Health, USA; Dr E. W. H. Cruickshank, Professor of Physiology, University of Aberdeen, Scotland; Dr E. Grasset, Professor of Bacteriology and Public Health, University of Geneva, Switzerland; Dr E. Grzegorzewski, Professor of Public Health, Director of the WHO Division of Education and Training Services, Geneva, Switzerland; Dr V. R. Khanolkar, Professor of Pathology, University of Bombay, India; Dr R. R. Macintosh, Professor of Anaesthesiology, University of Oxford, Great Britain; Dr O. Olsson, Professor of Radiology, University of Lund, Sweden; Dr M. L. Rosenheim, Professor of Medicine, University College Hospital Medical School, London, Great Britain; Dr F. J. Stare, Professor of Nutrition, Harvard University School of Public Health, USA; Dr A. C. Stevenson, Professor of Social and Preventive Medicine, Queen's University of Belfast, North Ireland; and Dr H. B. Wulff, Professor of Surgery, University of Lund, Sweden.

WHO Public Health Group in Egypt

Under the auspices of WHO, a group of public health specialists visited Egypt in February and March. This group—consisting of Dr G. Anderson, Dean of the School of Public Health of the University of Minnesota, USA; Professor W. Treuting, Professor of Preventive Medicine at Tulane University, New Orleans, La., USA; and Mr C. J. Sterling, Sanitary Engineer for the State of Massachusetts, USA—consulted with Egyptian public health authorities, gave lectures to members of the medical profession and to medical students, and surveyed the existing health services and facilities in Egypt. During their stay, the WHO team members worked with Egyptian specialists who were designated as opposite numbers—Dr Gamal El Din El Hefny (public health administration), Dr Mohamed Anwar (epidemiology) and Dr Mahmoud Wasfy, Dr Hassan Farid Zaghoul, and Mr M. Agama (sanitary engineering).

Tuberculosis Control Centre Opened in Cairo

In early March a new tuberculosis demonstration and training centre was opened in the Bab El Sharia district of Cairo.¹ This centre, established by the Government of Egypt with the assistance of WHO, is expected to give training in modern techniques in tuberculosis control to doctors, nurses and other relevant personnel from all the countries of the Eastern Mediterranean Region. It will work in close co-operation with and utilize

The survey group found that the existing medical education facilities in Korea suitably reconstructed and re-oriented are capable of providing a sufficient number of doctors and that Korea is already better supplied with graduate doctors than is most of Asia. The number of nurses, dentists and auxiliary personnel is inadequate however and there is a need for training programmes for public health nurses, sanitary inspectors and other essential health workers.

Among the suggestions contained in the report are administrative reforms in the organization of public health administration, modification of the hospital system and better utilization of the hospital services which are available, the granting of 168 fellowships for medical and related personnel over two years and rehabilitation of disabled veterans and civilians.

The Mission was headed by Professor G. Macdonald of the London School of Hygiene and Tropical Medicine. The other members were Dr. W. P. Forrest, Director of the Office of External Relations at WHO Headquarters and Dr. W. G. Wickremesinghe, Director of Health Services, Ceylon.

the facilities and services afforded by various health institutions and laboratories in and around Cairo

The new clinic was organized by Dr J B McDougall former Chief of the Tuberculosis Section at WHO Headquarters in collaboration with Dr Abdel Latif Hassan Director of the Section on Respiratory Diseases of the Ministry of Public Health. It is under the direction of Dr Abraham Attwa.

New Adviser for Thailand Yaws-Control Programme

Dr E I Grin of Yugoslavia has gone to Thailand to act as WHO senior adviser to the yaws-control programme which has been in progress since 1950. He is replacing Dr D R. Huggins who has been named Regional Adviser on Venereal Diseases and Treponematoses for the WHO Regional Office for the Western Pacific.

Dr Grin has had considerable experience in the campaign to control endemic syphilis in his native country and has written a monograph on this subject.² In Thailand he will work with two other WHO team members—a serologist and a public health nurse—and with Thai personnel. The campaign is directed by Dr Leong of the Thai health services and is staffed by a team of 235 persons including ten doctors, more than twenty courses laboratory assistants and other technicians and more than a hundred field workers specially trained in yaws-control activities.

It has been found that about 13.5% of those examined in the Thailand programme are suffering from yaws. New cases are being discovered and treated at an average rate of 12 000 per month. Resurveys in several districts where mass treatment with penicillin was carried out have shown that the prevalence of the disease has been reduced to an average of 3.8%.

Bilharziasis Control in the Philippines

Plans have been drawn up for the construction of a technical centre on the Island of Leyte, the Philippines, to serve as the headquarters for a six year pilot project in bilharziasis control. This building will house research laboratories and administrative offices as well as an aquarium for the study of snails, vectors of bilharziasis. It is estimated that 40 persons will be employed at the centre.

Mr J J Jauregui, public health engineer, is the first to be appointed of a three man international team to be provided by WHO for this project. The international group will work with a matching team of experts from the Department of Health of the Philippines.

The aim of the pilot project will be to determine the best method of controlling bilharziasis which is believed to afflict hundreds of thousands of persons in the Philippines. The length of the project is necessitated by the fact that there is insufficient knowledge concerning practicable and economical means of control of this disease.

Report of WHO/UNKRA Mission to Korea

The report of the WHO/UNKRA (United Nations Korean Reconstruction Agency) Health Planning Mission² has indicated that assistance to the extent of up to ten million dollars per year for a five-year period could be used to bring the public health system in Korea up to the proper standard. This report will serve as the basis for a long range programme of medical rehabilitation which is being recommended by WHO to the Agent General of UNKRA.



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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WORLD HEALTH ORGANIZATION MONOGRAPH SERIES

Two recently published numbers

No 11

EPIDEMIOLOGY AND CONTROL OF ENDEMIC SYPHILIS

Report on a Mass Treatment Campaign in Bosnia

E I GRIN

The natural course of endemic syphilis including its epidemiological clinical laboratory and other aspects has not been adequately described in existing literature. This study represents an important contribution to the limited knowledge on the subject. The environmental factors and their influence on the perpetuation of the infection as an endemic disease and the course of the disease over decades are discussed and original theories and new considerations are advanced explaining its behaviour in a primitive environment. A description is given of the different stages of the treatment campaign in Bosnia in which more than 35 000 cases were treated with penicillin and promising results obtained. Dr T B Turner and Dr D H Hollander of the International Treponematoses Laboratory Center Johns Hopkins University have contributed an annex on studies of treponemes from cases of endemic syphilis. The volume is profusely illustrated with maps figures and photographs.

English edition only 1953 93 pages 43 figures bibliography

Price 5/ \$1.00 Sw fr 4.—

No 12

BCG VACCINATION

Studies by the

WHO Tuberculosis Research Office,
Copenhagen

**LYDIA B EDWARDS CARROLL E PALMER
& KNUD MAGNUS**

The World Health Organization Tuberculosis Research Office in collaboration with the Danish Statens Seruminstitut and the International Tuberculosis Campaign undertook an intensive investigation of basic problems of tuberculosis immunization with special reference to BCG. The results of the work done during the first three years of the research programme are assembled in this detailed report which by its unbiased observations and critical analysis is an important contribution to the understanding of the problems involved in BCG vaccination.

English edition 1953 307 pages 50 figures 20 tables

French edition in preparation

Price 15/ \$3.00 Sw fr 12.—

KALA-AZAR IN EAST PAKISTAN¹

In the course of a malaria control demonstration in East Pakistan members of a WHO/UNICEF team undertook a study of the incidence of kala azar and of the possible effects on its transmission of spraying houses with residual action DDT. The project consisted of a preliminary survey in a definite area including spleen examination and blood test of children below 15 years of age and the collection of sandflies (genus *Phlebotomus*) spraying of part of the area with DDT and a follow up survey repeating the spleen examination and blood test of the children examined during the first survey and a search for sandflies.

This "research programme" was carried out in part of the district of Mymensingh, in an area of 42 square miles (109 km²) with a total population of 45 000. Malaria is prevalent in this area the spleen rate among children being 55% and the parasite rate 11% in the month of June (beginning of the monsoon). The observation area was divided into two parts one of which had been sprayed with DDT for malaria control purposes six months previously and the other left unsprayed as a check area and eventually sprayed for the first time towards the end of the first survey. The inside surfaces of every structure were sprayed with 2 g per m² of DDT which was shown to maintain its lethal efficiency for more than 14 months irrespective of the nature of the walls sprayed.

In the surveys diagnosis of kala azar was made on the bases of spleen enlargement and the results of serum tests. The method chosen for the latter was the capillary tube modification proposed by Raghavan of the Napier (formaldehyde) test. Every individual who gave a positive reaction to the test received a course of treatment with urea stibamine.

The first survey revealed spleen enlargement in 2 718 of the 6 108 children below 15 years of age who were examined (i.e. a spleen rate of 44.5%). Five hundred and ten children (8.35%) gave a positive reaction to the formaldehyde test. In 61 out of 149 families (41%) more than one positive kala azar case was found in the same family. The youngest child observed to be afflicted with the disease was a baby 16 months old.

One hundred and twenty three persons who gave positive reactions to the kala azar test were also examined for malaria parasites of these 81 were found to have malaria as well. It would appear that there is no relevant incompatibility between the two infections in the same individual.

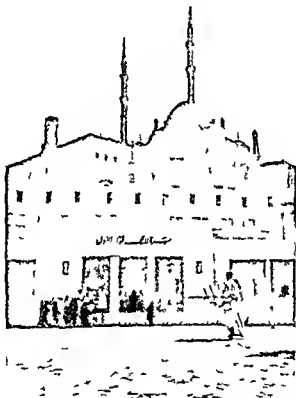
In the second survey started about three months after the first had ended 3 052 children who had given negative reactions to the kala azar

SCHEDULE OF MEETINGS

- 28 May-6 June Executive Board twelfth session Geneva
- 22-27 June Expert Committee on Drugs Liable to Produce Addiction, fourth session, Geneva
- 23-30 June Third Regional Nutrition Committee in South and East Asia (FAO/WHO) Bandoeng Indonesia
- 29 June-4 July Expert Committee on the International Pharmacopoeia twelfth session, Geneva

team undertook to assist in (1) training medical and auxiliary personnel (2) standardizing diagnostic and treatment procedures in venereal disease control (3) encouraging the use of modern public health techniques in case finding epidemiological studies etc (4) fostering co operation between

FIG 1 VENEREAL DISEASE CONTROL IN EGYPT



Welfare centre which served as headquarters for the mass survey
In the background is the famous citadel of Cairo

governmental and non governmental organizations interested in promoting health education (5) studying the economic and social significance of venereal disease in the country and (6) initiating limited research on certain problems

The work began in the city of Tanta where a clinic was established and various training and health education activities were undertaken. At the end of fifteen months the team moved to Cairo where it worked in close contact with the Health Administration and the University clinics

test at the time of the first survey were retraced and retested. Of 899 children living in the area sprayed in the earlier period, only one gave a positive reaction. It was found that he had been outside the sprayed area for two months. Of 2,153 children living in the check area, 1.85% gave a positive reaction to the kala azar test. This indicated that transmission of the disease had occurred to some extent in the check area between the time when the first survey had begun and that at which the area had been sprayed, while it had occurred only to a very limited extent in the area sprayed earlier for malaria control purposes.

Collections of sandflies were made regularly at suitable catching stations by means of aspirator tubes. These catches revealed a considerable increase in the *Phlebotomus* population of the unsprayed area in the premonsoon months (April-May) and a minor increase after the monsoon (November). The sandfly population seemed to be at its lowest ebb during the monsoon (June-September). No specimens were found in the premises which had been sprayed with DDT, except in one house in which new bamboo walls had been constructed.

Identification of the species of *Phlebotomus* could not be made locally, but 134 specimens were subsequently examined at the Istituto Superiore di Sanità, Rome. The only significant fact which emerged from these examinations was that there was a relative scarcity of specimens of *Phlebotomus argentipes* in an area in which kala azar is highly endemic.

Although this project was of limited duration and extent and the data collected insufficient to permit the drawing of statistically significant conclusions, the findings suggested that the transmission of kala azar was interrupted by spraying with residual action DDT.

VENEREAL-DISEASE-CONTROL DEMONSTRATION IN EGYPT

The end of December 1952 marked the completion of a two year WHO supported project in venereal disease control in Egypt carried out by the Egyptian Health Administration and an international team composed of a senior medical adviser (team leader), a physician serologist, a public health nurse and a programme specialist (health educator). This team acted in an advisory capacity to the Egyptian Ministry of Health and was attached to the Venereal Disease Section under the direction of Dr Ibrahim Hanafi Nagi.

The general aim of the project was to stimulate the development of a broad national venereal disease control programme on the basis of experience gained in a limited area (pilot project). Specifically the WHO

principally to the close and friendly co operation between national governmental and non governmental agencies the WHO Regional Office for the Eastern Mediterranean and the international WHO staff assigned to this project

Reports of Expert Groups

BRUCELLOSIS

During recent years considerable progress has been realized in the study of the epidemiology diagnosis and prevention of brucellosis These advances are described and discussed in the second report of the Joint FAO/WHO Expert Committee on Brucellosis which has just appeared as No 67 in the *World Health Organization Technical Report Series*¹

Thus far efforts have been concentrated on the control of bovine brucellosis although the disease in goats and in sheep also constitutes a serious problem and a danger to man In this report the applicability to sheep and goats of the diagnostic tests used in cattle is discussed Also considered are the indications and contra indications for vaccination of cattle various diagnostic tests carried out on milk methods for the isolation culture and identification of *Brucella* and problems in the diagnosis and treatment of brucellosis in man

The activities of the twelve FAO/WHO brucellosis centres which are making important contributions to knowledge concerning brucellosis are summarized and the particular subjects of study at each centre are listed

BIOLOGICAL STANDARDIZATION

The number of biological substances—vaccines sera antibiotics and enzymes—which are used in the diagnosis prevention and treatment of diseases is ever increasing The standardization of certain new products the establishment of reference preparations and the definition of international units are the work of the WHO Expert Committee on Biological Standardization It is especially noteworthy that the establishment of international standards is now being extended to preparations intended for diagnostic rather than for therapeutic or prophylactic purposes

During the period covered by the project, between 50 000 and 60,000 persons were examined—in clinics, hospitals and leprosaria as well as in sample surveys. More than 100 000 serological tests were performed. Three per cent of the people examined were found to have venereal disease and were treated with penicillin.

The majority of the cases discovered were late latent or late congenital syphilis. Neurosyphilis was found to be more prevalent than had been thought (more than 4% of the cases diagnosed were neurosyphilitic). This problem is therefore being studied, spinal punctures being done routinely on late and latent syphilitics in several hospitals. In some areas syphilis seemed to be a family disease, spread among people living in overcrowded and unhygienic conditions and becoming 'endemic' in nature.

The second year of the WHO project saw an emphasis on training activities. A demonstration of a mass survey and treatment campaign was planned and executed by WHO trained Egyptian personnel. (The health education aspects of this particular demonstration have been described in a previous *Chronicle* article¹).

While all the original objectives could not be attained in the allotted two year period, the following accomplishments have been recorded in assessing this project:

Modern techniques in venereal disease control were introduced and accepted, including a nationwide reorientation to treatment of syphilis with PAM (procaine penicillin G in oil with aluminium monostearate) instead of the toxic arsenicals; the use of newer antigens such as cardiolipin in serological tests; and the use of standard record forms in the clinic and laboratory and in case finding and epidemiological activities.

A teaching, training and research centre was established at Hotel Marsoud, Cairo, and national personnel were trained.

The introduction of mass survey techniques and of modern methods of epidemiological investigation made possible a more accurate evaluation of the prevalence of venereal disease in Egypt and of its social and economic implications.

Health education of the public concerning venereal diseases served as an approach to the advancement of general health education and fostered co-operation among personnel in different fields (e.g., social workers, government authorities and members of the medical profession) and among various national and international agencies.

The venereal disease-control programme, which is still in progress, has contributed to the strengthening of public health services and directly and indirectly to the improvement of social and economic conditions.

The WHO demonstration did much to stimulate venereal disease control in Egypt. The successful accomplishment of many of its objectives was due

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from the very beginning of his studies should be taught to consider the patient as a social organism not merely as a clinical case and that preventive and social medicine should play an important role early in the medical curriculum

The report includes consideration of the practical application of these principles their repercussions on the organization of medical studies and the various factors on which successful application depends selection and preparation of students the role and qualifications of teaching personnel improved standards of medical education and effective international collaboration

VENEREAL INFECTIONS AND TREPONEMATOSES

The fourth report of the Expert Committee on Venereal Infections and Treponematoses which has recently been published as No. 63 in the *World Health Organization Technical Report Series*¹ is in effect a summary record of present knowledge concerning the control of treponemal diseases. It is particularly important as a source of information on the conduct of mass campaigns against non venereal treponematoses—yaws bejel pinta njovera and endemic syphilis. Considerable experience in carrying out such campaigns has been gained in recent years when many governments have undertaken large scale control programmes with the aid of international organizations such as UNICEF and WHO.

The committee's report covers all the phases of mass treponematoses control programmes drugs and therapy and serodiagnosis and other laboratory aspects. In addition, it deals briefly with personnel training for venereal disease control work the control of venereal disease among seafarers and non treponemal venereal infections.

The essence of the report is contained in the following summary of the points which the Executive Board at its eleventh session drew to the attention of governments.²

Mass treponemal disease control campaigns

1 Where treponemal disease constitutes a major public health problem contacts without overt signs of disease should receive preventive (abortive) treatment with PAM (procaine penicillin G in oil with aluminum monostearate).

2 Control re-examinations should be undertaken at intervals of approximately six months depending on seasonal and other factors within the particular area.

3 National health administrations should take advantage of the opportunity offered by mass campaigns against non venereal treponematoses to serve as a bridgehead for the

The sixth report of the Expert Committee on Biological Standardization has recently been published as No 68 in the *World Health Organization Technical Report Series*¹. This report contains information concerning new standards such as those for anti *Brucella abortus* serum for diagnostic purposes, scarlet fever streptococcus antitoxin, staphylococcus β antitoxin, and dimercaprol. The replacement of standards of which the stocks are depleted such as those for penicillin and insulin, for which new corresponding units were also established and preparations for which standards are in the process of being established, diphtheria toxoid adsorbed, Rh blood typing sera, hyaluronidase, dihydrostreptomycin and others. Also in the report is a list of international standards and reference preparations completing that previously published. Two annexes are devoted to the distribution of international standards by the two institutes principally responsible for this distribution—the Statens Seruminstitut, Copenhagen and the National Institute for Medical Research, London. Tables give the number of phials distributed during recent years and the probable duration of the stocks of each standard or reference preparation.

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See *Chron World Hlth Org* 1953 6 : 64

UNDERGRADUATE MEDICAL EDUCATION

While it is not yet feasible to formulate international standards for medical education, it is possible to indicate general objectives and basic principles which are applicable to both premedical and medical studies in all countries. These objectives and principles are set forth in the second report of the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel, which has just been published as No 69 in the *World Health Organization Technical Report Series*¹.

This report emphasizes that the primary aim of undergraduate medical education should be to give basic training which would prepare the graduate to enter further studies to qualify him for a particular branch of medicine, the most important being general practice. Preprofessional training should include instruction in the humanities and social and behavioural sciences, as well as in the natural sciences. Subsequent medical education should provide in addition to professional or clinical training, studies which will enable the student to understand man in his physical, psychological and social environment. It is therefore desirable that the student

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schedules of treatment with PAM of syphilis in the individual clinic patient the draft text of the monograph on Only Injection of Procaine Benzyl penicillin which may appear in volume II of the Ph I including a description of the standard blood level duration test (*Sarcina lutea* method) a report on the serological and laboratory aspects of the WHO programme for the control of venereal diseases and treponematoses and illustrations of yaws lesions for field classification purposes

CONFERENCE ON DIPHTHERIA AND PERTUSSIS VACCINATION

In October 1952 fifteen experts from twelve different countries met at a WHO sponsored conference in Yugoslavia to discuss the preparation and use of prophylactic agents in the control of diphtheria and pertussis. The report on this conference has recently been published as No. 61 in the *World Health Organization Technical Report Series*¹.

Successful immunization against diphtheria is dependent upon the use of really potent prophylactic agents. The preparation of diphtheria vaccines and the measurement of their properties against the appropriate biological standard are therefore stressed in the report which gives an evaluation of the relative efficacy of the different types of prophylactics and indicates the place of each type in the control of the disease. For example it is considered that adsorbed toxoids administered in two doses are most practical for the primary immunization of children in mass immunization campaigns. In calling attention to the need for further research on diphtheria immunization the report states that the ideal prophylactic capable of conferring a high degree of immunity at all ages without causing either local or general reactions still remains to be found.

The preparation and biological control of pertussis vaccines are less advanced than those of diphtheria toxoids. The only reliable potency test available at present is a carefully controlled field trial although certain laboratory tests particularly the intracerebral mouse protection test show considerable promise. It is not yet known how to ensure reproducible results in the preparation of pertussis vaccine but the conference report summarizes the present state of knowledge and indicates on the basis of results of field trials those technical procedures which appear to be satisfactory and those which should be avoided.

With regard to the combined diphtheria pertussis vaccines (some with the addition of tetanus toxoid) which have begun to be used on an increas

development of wider general local health services. These campaigns should be carefully planned and fully implemented and should be made part of a general development plan for the area whenever practicable.

Therapy

1. For the individual clinic patient with early infectious venereal syphilis a large initial ("insurance") dose of PAM should be given on the day of diagnosis to assure reasonably effective therapy should the patient not reappear for further treatment.

2. In mass campaigns against non-venereal treponematoses the minimum total dosage for early infectious lesions in adults should be no less than 12 mega units of PAM with a proportionately smaller dose for children. This dose should be given in one injection. The preventive (or abortive) dose for contacts should be no less than half that used in the early infectious stages of the established disease.

3. The attention of health administrations is drawn to the minimum PAM requirements established in volume II of the *Pharmacopoea Internationalis* (Ph. I.) it is recommended that these minimum requirements be used as a guide in the national procurement of this penicillin preparation.

Serological aspects

Full opportunity should be taken by health administrations in field programmes particularly mass campaigns to

(a) use laboratory facilities for training purposes and develop them gradually into general public health laboratories as local health services are broadened

(b) utilize local laboratory services in the study and evaluation of special epidemiological, clinical and other problems connected with the particular area

(c) co-operate further with the International Treponematoses Laboratory Center for a wider sampling of strains of treponemata for local and central study

Auxiliary personnel

Full utilization should be made of national auxiliary personnel in treponematoses control programmes. Their training for this work can be a starting point for further and more general training as local health services are broadened. Consideration should be given by health administrations to more favourable conditions of employment for such personnel.

Venereal disease among seafarers

Health administrations in all WHO regions should take advantage of the facilities of the International Port Demonstration Project at Rotterdam, the Netherlands, and of the training courses which are to be organized there in 1953 and 1954.

Annexes to the report contain comments on the eradication of endemic syphilis in Bosnia which has been described in a monograph by Dr E. I. Grün² a report on the present status of treatment of early syphilis specimen

² Grün, E. I. (1953) *Epidemiology and control of endemic syphilis: report on a pilot treatment campaign in Bosnia*. Geneva (World Health Organization Monograph Series No. 11). See also Ch. 11, *High Org.* 1953, 7, 4.

sketched in some detail. Stress is laid on the role of the industrial nurse in implementing all the activities designed to promote the health of the worker.

Co-ordination of the efforts of public health and industrial health services is discussed in general terms, the object being according to the report "to accomplish the largest volume of public health effort at a minimum expense to the community" this being effected by a programme which provides for the complete co-operation on the local level of all the agencies having a bearing on the health of the worker."

Review of WHO Publications

MILK PASTEURIZATION

A profusely illustrated monograph on milk pasteurization has just been published in the *World Health Organization Monograph Series*¹. This monograph, a joint FAO/WHO publication, contains a digest of the most up to date information on the various stages of milk pasteurization, from the planning of a suitable pasteurization plant to the drawing up of legislation concerning the handling and treatment of milk.

The first essential in milk pasteurization is a satisfactorily designed and well equipped dairy building. The problems involved in determination of the site, choice of processing methods, planning the layout of the building and selection of construction materials are fully discussed in the monograph. The three most generally accepted methods of milk pasteurization and the type of plant required for each are described. The operation of the plant is considered in detail, and standards for pre-pasteurization and pasteurization procedures are clearly defined.

Laboratory control at all stages is of paramount importance in the milk pasteurizing process. The various tests involved in this control, the apparatus required, and other relevant subjects are treated in the monograph.

For milk pasteurization to be of maximum benefit to the community, standards for the handling and treatment of processed milk must be established by law, and official supervisory authorities and control laboratories set up. This subject too is included in the monograph, and the principles which should be followed in drawing up such legislation are outlined.

¹ Key H D C (ed) *IRKH S. Milk & ATR & Rowland A (1953) Milk p. 1, Latf*
pla ing plant pr t nd co i t G (W Id H th O g te H M og ph Se le N 14)
204 p ges 93 fig res 3 t hles price 12/6 \$ 50 Sw f 10 - F sch d to prep t n. Th report
is al o be g p bl hed by the Food and Agricul re Org niza t th U od N t ons E glish F sch
and Spanu h as N 23 in th FAO Ag l R t S t d sten

ingly large scale in recent years, the report states that there are a number of scientific and practical problems to be solved before their general use can be recommended. There is some reason to believe that the result of giving a combined vaccine is determined both by the balance of the different antigens in the mixture and by the degree of latent immunity in the child receiving the injection. Until accurate information is obtained by careful trials in the laboratory and in the field the use of combined vaccines must necessarily be considered as empirical.

In addition to summarizing current knowledge concerning the three vaccines—diphtheria, pertussis, and the combined vaccine—the conference report contains technical details of vaccine production.

OCCUPATIONAL HEALTH

Measures for promoting health through the working environment are the subject of the first published report of the Joint ILO/WHO Committee on Occupational Health No. 66 in the *World Health Organization Technical Report Series*¹. This subject is considered under four main headings: (1) measures of general health protection of workers in places of employment, utilizing the places of employment as an approach to general health problems; (2) notifications of occupational diseases; (3) organization of comprehensive health service programmes in large and small plants and in agricultural enterprises, and (4) methods of co-operation between public health and industrial health services and of implementation of existing industrial health legislation and standards.

Particular attention is given in this report to the application of measures in several special fields of public health for the promotion of health of the workers in places of employment. It is pointed out, for example, that industrial and agricultural establishments can often aid their workers in securing nourishment adequate to meet their total health needs by making provision for meals for their employees and by educating them and their families in principles of sound nutrition. Places of employment also furnish valuable opportunities for detecting, treating and controlling cases of communicable diseases. Other topics considered are the special problems of women and children as workers, mental health aspects of work in industry, environmental sanitation as a factor in occupational health and the health education of workers.

In the discussion of the organization of comprehensive health services in industrial or agricultural enterprises, programmes for large plants are

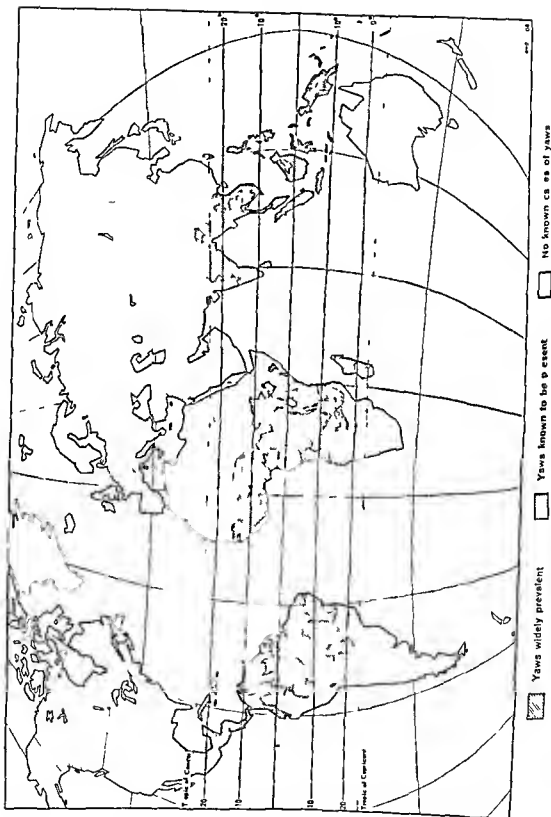
INTERNATIONAL SYMPOSIUM ON YAWS CONTROL

A collection of the papers presented at the First International Symposium on Yaws Control held at Bangkok Thailand in March 1952¹ has been published in the *World Health Organization Monograph Series*². Among the subjects of the articles and discussions included in this monograph are the biology of yaws antibiotics in the treatment of this disease the role of international organizations in assisting governments in their efforts to control yaws and the five phases of a yaws control project—(1) preliminary analysis of the extent and nature of the problem (2) development of plans of operation suitable to local conditions (3) demonstration survey and training (4) expansion of the project into a mass treatment campaign and (5) consolidation in which the yaws-control programme is integrated into the permanent health structure of the area concerned. These various phases of control projects are illustrated by experiences in specific countries or regions—Africa Brazil Haiti the Philippine Islands and South East Asia (Indonesia Thailand)—and successful control campaigns based on mass treatment with repository penicillin preparations are described.

See Ch. *Wld Hlth Org* 195 6 253

World Health Organization (1953) First International Symposium on Yaws Control (Wld Hlth Org Monograph Series No 15) 418 p 30 plates price 2/6 \$4.50 Swf 18—
Medlinguang dit n o tau g ri l th English Fre ch with mm res both l gu g

FIG 2 GEOGRAPHICAL DISTRIBUTION OF YAWS



The course

In the USA the student not the course is the basis of the curriculum. Emphasis is on practical demonstrations, group discussions and direct methods of teaching, not on lectures and memorization of textbooks. Free time is allowed for optional and individual study or for elementary research.

The teachers in the basic sciences and also many in the clinical subjects are full time professors chosen more because of their accomplishments and/or teaching experience than on the basis of the degrees or diplomas which they possess. In schools in which finances do not permit paying adequate salaries to teachers of clinical subjects they may be allowed to engage in limited clinical practice. In some schools the income from such practice by the clinical teachers has a fixed "ceiling" beyond which the income gained is pooled for use within the relevant department and/or university medical school.

"Man works in health and suffers in disease as a whole and therefore the structures and functions of the tissues and organs of a man which work as a unit of the body along with the mind cannot be studied in health and disease in an isolated, segmented and fragmentary manner. Students must know man as a whole in disease and in health. He [man] is therefore studied in USA medical schools as a member of a family group which further is a part of the community reacting in the socio-economic and biological environment in which he lives and suffers. The medical care, students' education and research activities of the staff are so integrated and co-ordinated as to allow continuity of relationship between the patient, his physician, the student and other health and social workers."

Throughout the clinical course prevention is emphasized as an integral part of medicine. Psychology is taught in all the four years as a basic discipline of medicine, stress being laid on a psychological approach to clinical matters.

The concept of studying disease in man in his environment has led to interesting schemes in certain USA medical schools. In some schools a family is assigned to each student who acts as a liaison between the family, the family physician or the hospital staff. The student follows illness in the family and makes reports which are discussed monthly in students' groups under teacher direction. In other schools third and fourth year students are organized into teams along with student nurses and student social workers to take care of the people of a limited area (usually in the economically poorer sections of the city) for a month during which time they visit homes, give aid and arrange for preventive health measures or treatment of illness and meet with teachers to discuss problems. In still other schools the students are sent out to work with a general practitioner in a rural district or to work at a health centre for a limited period.

The development of the students through their education is the responsibility of their teachers, just as successful construction of a building according to plans is the responsibility of an engineer when the required tools and materials of good quality and finances for the same are provided. The success of the direct methods of teaching employed and of the personal supervision by the teaching staff of the day to day progress of the students is indicated by the fact that hardly 4-6% of the students drop out during the four year course. Incompetent students (about 2-4%) are weeded out in the first 1-2 years.

Examinations and licensing

In most USA medical schools the degree of M.D. is given upon having satisfactorily completed a four year course, though some give the degree only after completion of an additional year of hospital work. Promotions from the first through the fourth year depend upon grades obtained partly through tests given in the various departments of the school. Such tests which are often of the "objective" type (i.e. multiple choice questions, recognition of statements as true or false, completion of gaps, etc.) are given when the professors see fit and grades are usually determined twice a year.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Modern Trends in Medical Education in the USA

Dr S G Vengsarkar Dean of the Topiwala National Medical College and Superintendent of the Bai Yaminabai L Nair Charitable Hospital Bombay was granted a WHO fellowship to study medical education in the Netherlands the United Kingdom and the USA. There follows a summary of his comments on observations and study in the USA.

Medical education in the USA was in a comparatively chaotic condition until about forty years ago when a critical examination was made and efforts to improve medical education standards initiated. As a result of these efforts the number of recognized medical schools was reduced from 400 to 79.

The object of medical education in the USA today is to turn out the best possible doctors not professional or technical experts. According to the standard curriculum required by the Council on Medical Education and Hospitals the entire course should aim to train students in the science art and practice of medicine this including the understanding and cultivation of health and the prevention and treatment of disease. The undergraduate curriculum should provide a sound foundation in the fundamentals of medicine on which the student can build his future work in general or special practice or in scientific investigation. In addition it should aid the student to acquire habits and attitudes which will encourage him to continue to educate himself throughout his life.

Admission requirements

A broad general education including studies in science is requisite for admission to medical school in the USA. The minimum requirement is two years' college education but six medical schools demand a B.A. or B.S. degree. More than 50% of the students admitted to medical schools have a bachelor's degree and the others have completed at least three years' college education in the arts and/or sciences.

Admission to medical schools is granted by committees of deans of the colleges and is based upon scholastic achievement, personal qualifications and character, recommendations from school and college authorities, personal references and the results of certain aptitude tests. Applications must be submitted from nine months to one year before the actual date of desired entry. About one out of three applicants succeeds in obtaining admission to an approved medical school. Admission of female candidates is restricted to 4.6% of the total, counting those admitted to two women's medical colleges as well; women constitute about 8% of all the first year medical students.

Society and WHO dealt with all phases of tuberculosis prevention and control—the use of BCG vaccine case finding bacteriological investigation personnel for tuberculosis control work tuberculosis legislation etc. A plan proposed by WHO for tuberculosis control projects was accepted and ways of implementing it were considered.

Tuberculosis congress in Turkey

Dr E Berthet former WHO consultant at the Istanbul Antituberculosis Training and Demonstration Centre¹ now head of a demonstration team at Damascus Syria presented a paper "Tuberculosis Control in the Countries of the Middle East" at the first national congress on tuberculosis in Turkey held in late February at Istanbul. The congress brought together more than 200 physicians from all parts of the country.

In his paper Dr Berthet called attention to the impetus which the establishment of the Istanbul Centre had given to tuberculosis control in Turkey. He praised the practical attitude of the Turkish Government in its tuberculosis-control efforts and emphasized the necessity for waging war "mercilessly" against the social factors which favour the spread of tuberculosis—factors which are not the affair of the physician but rather of governments.

Malaria

Burma

A report on the malaria-control project which has been in progress in Burma since October 1951² gives an indication of the effect of DDT spraying on malaria transmission. The infant parasite rate in an area sprayed with 2 g of DDT dropped within a year from 35.2/ to 0 whereas in an unsprayed check area the rate within the year increased from 41.2/ to 46.0/.

Iran

Final figures for the population protected against malaria in 1952 amount to 4 130 000 persons in 12 600 localities. As previously indicated³ a WHO advisory malaria unit has been assisting the Iranian Government in its programme of nationwide malaria control. The unit has been in Iran since 1950.

Endemic Yellow Fever Areas

A previous issue of the *Chronicle*⁴ carried maps of endemic yellow fever areas in America and Africa. The yellow fever endemic areas given were those which were delineated by UNRRA and modified by the World Health Organization under the previous International Sanitary Conventions.

On the entry into force of the *International Sanitary Regulations* no delineation based on the definition of yellow fever endemic zone in the *International Sanitary Regulations* has been made. A new delineation in accordance with the *Regulations* will be considered by the *Expert Committee on Yellow Fever* and the *Committee on International Quarantine of the Organization* in September and October 1953.

See Ch. W. *Id Hih O g* 1952 6 135

See Ch. W. *Id Hih O g* 1952, 6 53

See Ch. W. *Id Hih O g* 1950 4 125 1951 5 28

Ch. W. *Id Hih O g* 1952 6 338

The licensing of physicians (i.e. registration for the purpose of practice in medicine) is the function of the State each having its own board of medical examiners or department of registration. Most of them recognize the certificate of the National Board of Medical Examiners which a student may obtain by passing three examinations at different phases of his studies. Part I is given after the first two years (basic sciences) part II after four years have been completed (clinical subjects) and part III after a year of internship (practical work).

Internship

Twenty three of the 48 States require that a period of internship in an approved hospital follow the four year course before a physician may be allowed to practise. In six schools internship is required for the M.D. degree.

Internship is considered as educational in function and is not expected to be undertaken by hospitals for institutional services. Some attempt is now being made to organize facilities for internship throughout the USA.

Postgraduate education

Postgraduate courses may be offered and another degree or special certificate be obtained upon completion of certain work. Training for specialities is generally given in the form of residencies in hospitals in which practice is done under supervision and experience thereby gained.

There are American speciality boards for the different clinical specialities. These specify the qualifications and training required of graduates to make them eligible to sit for the examinations for certification in the speciality. These boards hold such examinations and grant certificates to successful candidates. Most speciality boards demand three years formal training plus one or two years additional training and/or practice under supervision. Nearly all of the boards insist that some instruction in the basic sciences be given particularly in those sciences related to the speciality.

* * *

Dr Vengsarkar found that in the USA medical education is treated as a subject for experimental research and that constant efforts are made to improve it. Experimentation is made possible by the freedom of medical schools to develop their own courses and teaching methods which vary not only from State to State but also from school to school.

In its emphasis on comprehensive medicine medical education in the USA Dr Vengsarkar feels is preparing students for the "medicine of tomorrow".

Notes and News

Tuberculosis

Pan Pacific Tuberculosis Conference

Delegates from 30 Pacific countries met in April at Manila the Philippines to discuss tuberculosis control in the Pan Pacific area. This conference sponsored jointly by the Department of Health of the Republic of the Philippines the Philippine Tuberculosis



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

This double number of the Chronicle gives an account of the Sixth World Health Assembly held in Geneva from 5 to 23 May 1953. The official proceedings of the Assembly including decisions and resolutions verbatim records of the plenary meetings and minutes and reports of the main committees will be published as Official Records of the World Health Organization No 48

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Publication Notes

Epidemiological information

A recent number of the *Epidemiological and Vital Statistics Report*¹ brings up to date information on the trend of two diseases—cerebrospinal meningitis and scarlet fever. These articles supplement longer studies published in 1951.

A supplement to the *Weekly Epidemiological Record*² contains a list of countries inoculation and vaccination certificate requirements as on 1 March 1953.

Cardiolipin antigens

A four page list of corrigenda to the WHO monograph *Cardiolipin antigens*³ prepared by the authors for the second impression of this publication is being distributed free of charge on request.

Rehabilitation of the disabled

The United Nations has published a 108 page report *Modern methods of rehabilitation of the adult disabled*⁴ which gives a comprehensive account of a group-training course organized by the United Nations with the co-operation of WHO and the International Labour Organisation and held in Sweden, Finland and Denmark from 8 September to 7 November 1952.

New publication on coding causes of death

WHO has recently published in the form of an addendum to the *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death* a 55 page booklet entitled *Supplementary interpretations and instructions for coding causes of death*. This publication which contains a number of changes and additions which experience in the use of the Classification has suggested is so arranged that the individual pages may be torn out and inserted in the relevant sections of the Manual.

Epidemiol. Statist. Rep. 1953, 5: 617-64.

Weekly Epidemiol. Rec. 1953, 28: Supplement to No. 3-3, 5 March.

Pangborn, M. C. & others (1951) *Cardiolipin antigens*. Geneva: (World Health Organization Monograph Series No. 6) price 1/6, \$1.00 or Sw. fr. 4.—

United Nations (1952) *Modern methods of rehabilitation of the adult disabled*. Geneva (ST/TAA/SER C/4) (United Nations Publication, Sales No. 1952.V.19), price \$1.25 or equivalent in other currencies.

CORRIGENDUM

1953 Vol. 7 No. 1 (January) p. 22 lines 3-4 and 14

Delete National Council for Mental Hygiene

Insert National Association for Mental Health

SIXTH WORLD HEALTH ASSEMBLY

SCHEDULE OF MEETINGS

28-29 July	WHO Regional Office for Europe — Ad hoc Committee of Medical Librarians Geneva
27 July-1 August	Expert Committee on Environmental Sanitation third session, Geneva
31 August-4 September	Expert Committee on Rheumatic Diseases, first session Geneva
3-8 September	Regional Committee for the Western Pacific fourth session Tokyo
7-10 September	Regional Committee for Europe third session Copenhagen
7-14 September	Expert Committee on Malaria fifth session Istanbul
15-19 September	Regional Committee for South East Asia sixth session Bangkok
21-26 September	Regional Committee for Africa third session Kampala

SIXTH WORLD HEALTH ASSEMBLY

The Sixth World Health Assembly which met in Geneva from 5 to 23 May 1953 marked a turning point in the life of WHO in that it was the end of the first five years of the Organization's activities and of the leadership of Dr Brock Chisholm as Director General. It therefore provided an opportunity for those present to review and assess the accomplishments of the Organization to date and to pay tribute to the work of the retiring Director General. The Assembly was also notable for the progress realized in solving certain difficulties which had beset the Organization for some time.

In his opening address Dr J Salcedo, President of the Fifth World Health Assembly, remarked that the year 1952 had been "another year forward in the pursuit of the objective of WHO" but sounded a note of warning.

"I should like to point out a few of the possible vulnerable factors which may handicap the work of WHO.

"The Director General has called attention to the potential danger to the success of the Organization posed by the delay in the payment of the contributions of some countries. The delegates to this Assembly can perhaps use their influence to urge their respective governments to transmit their financial contributions to the World Health Organization promptly and may I add faithfully in order to prevent a slowing down of WHO's programme of action.

"Several of the activities of WHO have been planned on the strength of the Technical Assistance funds which are to be made available to WHO from the Expanded Programme of Technical Assistance. Some of these activities are now in actual operation and others are due for implementation. We would view with very serious concern for the workings of WHO any curtailment of these funds which caused them to fall short of the requirements; it may even place WHO at a standstill. The proposed regular programme and budget for 1954 which is practically at the same level as for 1953 does not provide for meeting all the urgent requests from governments. It is obvious that unless governments increase their voluntary contributions to the 1954 Expanded Programme of Technical Assistance the work of WHO will be retarded.

It is our earnest hope that while we admit we may have differences of opinion and may not be satisfied in some instances we can all work cohesively together to keep this Organization solid, strong and enduring in its dedicated task of promoting and protecting the health of all peoples which is fundamental to the attainment of peace and security.

At the end of his address Dr Salcedo praised the quality of the leadership of Dr Chisholm who he said had truly demonstrated himself to be the greatest exponent of the cause of world health.

Officers

Dr M. Khater, Minister of Health of Syria, was elected President of the Assembly.¹ In his presidential speech Dr Khater expressed his appre-

¹ For biographical notes on Dr Khater see page 190.

for the protection of the peoples of the world. This too marks a very great service used extensively and highly appreciated by governments.

Also during 1952 very much work has been done on the second volume of the International Pharmacopoeia which was prepared in 1952 and is nearly ready for production.

"The advisory services of the World Health Organization have largely been devoted to assisting governments in training personnel by demonstration by fellowships by travelling teaching teams by setting up seminars and meetings of scientific people. One of the important aspects of this training programme has been the fact that a very large proportion of the work has been concentrated in the training of the so-called auxiliary health personnel especially nurses and midwives. The expansion in training of nurses and midwives in many parts of the world has been very great during 1952.

"I should mention here the fact—because it has become extremely important in the work of the World Health Organization—that almost all this type of work is done with the very effective and extensive assistance of the United Nations International Children's Emergency Fund without which the World Health Organization would not be able to undertake this very extensive work. It is the Children's Emergency Fund that has provided the materials for almost all the programmes and the World Health Organization has become very dependent indeed on the services of that Fund to carry out this type of work.

"It was at the request of the Regional Committees for Africa, the Western Pacific and South East Asia that this type of work of training auxiliary personnel particularly has been undertaken. It was these regions that particularly asked for such services through their regional committee meetings.

In another field there have been very extensive developments during 1952. The field of environmental sanitation. Very many new programmes of environmental sanitation have been developed during 1952 and have begun or have been planned. There has been a growing appreciation in many parts of the world of the need for these programmes and their value to all health work especially that health work that is concerned with technical assistance for economic development and in this field the expansion has been very great indeed threatening to outrun the available resources of teaching personnel.

"Nineteen fifty two marked the first full year of the United Nations programme of Technical Assistance for Economic Development and this programme has developed into a very large responsibility indeed. The requests from governments addressed to the World Health Organization both under its regular programme and under the Technical Assistance programme have now developed far beyond the capacity of the World Health Organization to meet them. The demands have become very great they are invariably representations of real needs none of them is frivolous they all represent the recognition on the part of governments that they need and are ready for certain types of assistance. It is a very difficult situation for the Organization to have to recognize that its funds are grossly inadequate to meet these crying demands which are being made from most parts of the world.

At the same time that these things have been happening the responsibility of the World Health Organization—and perhaps its greatest expansion certainly from its headquarters point of view—has been in the field of co-ordination of health services provided by all organizations working in that field. There are many organizations now engaged in international health services. Bilateral Technical Assistance organizations are providing very extensive services to many governments. All such organizations whether multilateral or bilateral have recognized the responsibility of the World Health Organization for the co-ordination of all international health work and this great expansion and universal recognition of WHO's responsibilities have added enormously to the amount of work that must be undertaken notably the amount of travelling that must be done by officials of the Organization. These requirements have seriously strained the resources of

citation to those who had elected him viewing his election as a demonstration of WHO's adherence to the principles of equality, true democracy, and social justice, since he represented a region which had not previously been honoured with the presidency and a country which might be considered relatively small in terms of area and the number of its inhabitants.

The Assembly also elected three Vice Presidents: Dr S. Anwar, Director, Public Health Service, East Java; Dr R. C. Bustamante, Under Secretary of State for Health and Welfare, El Salvador; and Dr M. D. Mackenzie, Principal Medical Officer, Ministry of Health, United Kingdom of Great Britain and Northern Ireland.

Dr O. J. Leroux (Canada) was chosen Chairman of the Committee on Programme and Budget and Mr T. J. Brady (Ireland), Chairman of the Committee on Administration, Finance and Legal Matters.

Review of 1952 Activities

Dr Chisholm presented to the Assembly the annual report on the Organization's work for the year 1952² calling attention to points of importance and to difficulties real and potential.

In presenting particularly the introduction to this Report it will be clear that the Director General considers it his responsibility no matter how difficult or even painful that may be to call attention to any difficulties or potential difficulties which he believes may threaten the work of the World Health Organization at any time.

The principal point for consideration of the work during 1952 is the very great increase in the total work of the Organization during that year. The expenditure—the total expenditure—of the Organization during 1952 surpassed that of 1951 by approximately 50 per cent. Almost all this increase came from United Nations Technical Assistance funds, not from the regular budget of the World Health Organization. That expenditure has almost entirely been in services to governments; there has been almost no expansion of any kind in headquarters and only such minimal expansion in the regional offices as was necessary to take care of the vastly increased load of services to governments in their countries so that this great increase has gone into the field activities of the Organization in actual assistance to governments in developing their own health services.

During 1952, the establishment of regional offices has been completed and there is already well illustrated and proven the great wisdom of the International Health Conference which decreed that this should be a decentralized organization to bring the services of the Organization close to the governments that need them and to get the actual services to governments out of headquarters.

Another significant development has been the application of the International Sanitary Regulations which came into effect in 1952. In the opinion of many authorities this is one of the most significant pieces of work done by the World Health Organization. It is believed that these regulations provide the maximum protection and the minimum interference acceptable at this stage of development for the nations of the world and these regulations do indeed mark a very great advance in world organization in the interests of the health of the peoples of the world.

Nineteen fifty two marked the thirtieth anniversary of the beginning of international biological standardization and at this stage some fifty substances have been standardized.

and only an international organization that can mobilize and co ordinate all the forces of mankind is big enough to wage an effective struggle against such evils

" As you all know our principal problem is the Pilgrimage. If this problem is given a certain priority it is not only because of its international repercussions but also and especially because of its magnitude and the consequences it may have for the public health of our country. During the next ten years the Pilgrimage will present even more difficulties because it will take place during the hottest months of the year. To cope with these difficulties suitable plans have been drafted and put into effect by the public health services of Saudi Arabia. The experience of last year has already made it possible with methods less advanced than those to be applied this season to reduce the fatality rate from sunstroke to one tenth of what it was previously. The erection at places near to the Mecca Arafat route of immense sunshades, drinking water stations and first aid centres and the construction and equipping at Mena of a modern hospital specially designed for the treatment of sunstroke have produced most satisfactory results.

" The quarantine station at Jeddah the origin of which is familiar to you is to be inaugurated shortly. It will be capable of handling about 2 500 patients at once and of applying all the health measures necessary for the control of epidemic diseases. Once the material and equipment (already ordered) have been received this station will be in a position to subject pilgrims no matter how numerous to the most rigorous health control.

" I should like to assure you that the gigantic effort which the supervision of the Pilgrimage demands of us does not prevent us from fulfilling our obligations at a national level or reduce our vigilance in the work which we are undertaking to raise the health standard of our nomadic and settled populations. This year five hospitals have been set up in the large towns of Saudi Arabia. Directed by specialists of high standing and provided with the most up-to-date equipment these hospitals will help to bring about a considerable improvement in the health conditions of the country and represent so many barriers against disease.

" The programme of assistance agreed upon by the Organization and drawn up and put into operation by the Regional Office at Alexandria included the sending of two teams to combat malaria and venereal disease. Our health services have derived the utmost benefit from this experience in view not only of the immediate results but also particularly of the long term work which these teams stimulated us to undertake. Following this example local teams have been formed which will not delay in assuming the task of their predecessors. The Government of Saudi Arabia aware of its needs and benefiting from the guidance of the Organization and the pertinent advice given has already initiated the construction of a 200-bed sanatorium for which \$1,200 000 have been budgeted.

" Until now the health services of Saudi Arabia have recruited their personnel abroad. We hope soon to be able to hire our staff within our country for our students in the training schools for auxiliary health personnel and in the various universities in the Arab and Western countries will not be long in returning to their country and putting their knowledge and skill at its service.

This is our position and these are our plans for the future."

Dr F. Hurtado (Cuba)

Another question of a legal nature which is to be discussed is that concerning the proposed amendment to the Constitution which if adopted would institute biennial—instead of annual—meetings of the Assembly. I should like in this plenary session of the Assembly to take the opportunity to put you on guard. Our Government has studied this proposed change with great care and is of the opinion that such a change is not opportune and that it is not advisable to modify the present system in the manner suggested.

your Secretariat so that many things that they should be doing have had to be neglected. There has been no expansion except for very few positions to look after certain Technical Assistance requirements in the headquarters of the Organization for three years including 1954 and the time is coming very soon certainly not later than 1955 when expansion of the headquarters staff will be essential unless there is a considerable reduction in the amount of work that the Organization must do. Increased efficiency of the Organization better training of its staff have made it possible to assume this vastly greater load during the last two years and especially in 1952 but saturation point has now been reached, and it will not be possible for headquarters with its present staff to assume any additional responsibilities. Indeed the pace at which headquarters has had to work during 1952 cannot be maintained indefinitely it will be necessary for the Organization to take some effective steps to provide some relief for the staff of headquarters and of the regional offices all of whom are being grossly overworked at the present time.

" this is my last presentation of a Report on the Work of the World Health Organization. I hope and indeed I trust that at this Assembly the governments represented here will be able honestly and sincerely to recognize the value of the World Health Organization to the peoples of the world and that everything will be done which can be done to ensure its future on a thriving basis without its being too much held down for lack of funds "

Professor G. A. Canaperia, Vice President of the Executive Board, in presenting the reports on the tenth and eleventh sessions of the Board,² emphasized the financial problems facing the Organization as a result of reduction in Technical Assistance funds, and the political problems posed by assignment of territories to Regions and by WHO's relations with non-governmental organizations.

General Discussion

In the course of the general discussion on the reports of the Director General and the Executive Board, delegates from many countries spoke of particular problems, praised the work of WHO and expressed appreciation of the part which Dr. Chisholm had played in leading the Organization through its formative years. Excerpts from a few of these speeches follow.

Dr. R. Pharaon (Saudi Arabia)

I can give no better proof of my Government's great interest and faith in this Organization than by quoting the words of our Minister of Health on the occasion of the anniversary of the World Health Organization this year.

The Government of Saudi Arabia in celebrating the anniversary of the World Health Organization takes this opportunity of paying tribute to its worldwide activities. The assistance which it offers to all countries is the best and most striking guarantee of the effectiveness of international collaboration under its aegis. My Government which has benefited from its aid and advice in the conduct of campaigns against tuberculosis and venereal disease appreciates the importance of this Organization. The scourges which unceasingly threaten mankind recognize no frontiers and strike all peoples without distinction. Their magnitude is such that no single nation can combat them unaided.

Rajkumari Amrit Kaur (India)

I think we can with ample justification for doing so claim quite an amazing amount of success. Coming as I do from a part of the world where anything we do is but a drop in the vast ocean of our needs I can at any rate bear witness to the fact that WHO has helped us to lay our foundations on right lines and has at all times given first place to priorities such as the governments of the countries have seen them and I am quite sure that this happy understanding and co-operation could never have been created if we had not ab initio taken the wise decision to create regional offices. I believe that the most outstanding contribution which WHO has made to the study and solution of international health problems is to develop a technique of close association with Member States through the decentralization of its activities by the establishment of these bureaux in different parts of the world. It should not be forgotten that the ultimate purpose to be achieved by international health activity which has been admirably expressed in the objective of the World Health Organization is the attainment by all peoples of the highest possible level of health. This purpose can be secured only on the widest possible basis of understanding, appreciation and acceptance by the people of the world of the fundamental principles of healthful living and by the concerted effort of all concerned including governments to bring into being certain national minima to fulfil the requirements of a reasonably high standard of life. The task to be accomplished is essentially that of educating nations and those in authority in those countries in the ways of organizing existing national resources of augmenting them through a planned programme of development and of dovetailing national effort to the available sources of external aid for raising the standard of public health as speedily and as effectively as possible. All of us who have been in touch with the expanding activities of WHO are aware of the work which has been done during the past few years by the regional bureaux of the Organization towards awakening interest in health problems through technical advice and the provision of supplies and equipment.

" Outstanding examples of such collaborative effort in different parts of the world are an anti yaws campaign through penicillin therapy in Haiti, Indonesia, Thailand, the Philippines and to a limited extent in India; malaria control in some twenty countries; popularization of BCG vaccination and its spread on a mass scale; participation in the professional education of health personnel including overseas training for higher types of workers; development of facilities of training within individual countries for their own nationals; organization of seminars and conferences on a regional or inter regional basis; and the sending out of visiting teams of experts to stimulate better standards of medical education and of health practice by an exchange of ideas and by the demonstration of improved methods which are current elsewhere.

" It is a matter for gratification that this Organization has on the whole kept itself free from political influences and has devoted itself to the task of building up its structure and functions on the basis of technical efficiency and practical wisdom in dealing with the health problems of nations with their wide variations in cultural and social patterns of life. This development has demanded vision, a wide spirit of tolerance and a generous and sympathetic appreciation of the difficulties which individual countries have to contend with in organizing measures for the improvement of public health. I am sure that all of us who have been associated with Dr. Chisholm will agree that to a large extent these happy results have been influenced by the personality of its first Director General. The thought that he will be no more with us is indeed a sad one. His wide knowledge and experience of medical matters and more than anything else of human nature have been invaluable assets to the Organization in the early formative years of its existence."

A two-year period does not represent the periodicity suitable for a dynamic assembly such an interval may be appropriate for other types of organization but not for our Assembly whose action is based essentially on a science which is continually changing

Dr L A Scheele (USA)

The amazing improvement in world health since 1946 is due in part to the capacity of the World Health Organization to aid in catalysing the effort for improved conditions in individual countries. The best evidence of this success is I believe the increasing governmental support of public health in countries receiving services from the World Health Organization. In 1953 for example 62 per cent of these countries report an expenditure of \$29 million in local funds for projects conducted in collaboration with the World Health Organization in addition to their assessment for its support. This support of WHO projects is in addition to funds expended for their usual health activities.

Likewise voluntary support is vital to the continued growth and prosperity of the World Health Organization. The more that non governmental organizations can learn about WHO and participate in international health work the greater and speedier will be progress in world health and the firmer will be the base on which WHO grows. I am proud to report that in my country at the time of World Health Day April 6 8 the representatives of over one hundred voluntary organizations and a large number of citizens met in the nation's capital Washington to discuss how American citizens and voluntary agencies could best support world health. This First National Conference on World Health was sponsored by a recently organized National Citizens Committee for the World Health Organization.

The World Health Organization is the focal point for many governmental and non governmental organizations concerned with international health work. Its relations with non governmental agencies could well be re-examined with a view to strengthening co operation between voluntary and official agencies in the international health field.

Although we recognize with deep gratitude that the World Health Organization's present position of leadership is due primarily to the work of Dr Chisholm and his devoted staff we must never forget that a large share of the world's confidence in WHO is due to the desire of nations to work together in the United Nations. The status of WHO as a part of the United Nations is perhaps the most potent factor operating to ensure future progress in world health. An urgent task for the World Health Organization therefore is to work with patience and persistence to find its proper place in the complex programmes of the United Nations and to fit in with the United Nations' broad objectives. WHO must always retain its position as the international focus of health knowledge and official health activities but it cannot stand alone nor can it hold that position apart from the many closely related fields of knowledge and action which make up life in the world today.

WHO has helped to launch the most widespread advance in human health that history records and has done so with very small budgets. One of the most valuable lessons that public health work can teach us is that so much can be done with so little—in terms of highly trained personnel and funds. But as President Eisenhower said:

Every gun that is made every warship launched every rocket fired signifies—in a final sense—a theft from those who hunger and are not fed those who are cold and are not clothed. As we continue to build peace through health we can at the same time look forward to even greater investment in world health in the future after the United Nations and our governments succeed in finding the road to peace and security.



everything possible to improve the health conditions of the people living in the immense territories of the Amazon Valley. Dr Candau's work there was that of a pioneer and it was doubtless during that period of his life that he acquired the remarkable qualities of organizer and man of action which dictated your choice.

"I associate myself with the congratulations and wishes for success offered by all delegates to Dr Candau since his election and say to him: Dr Candau, I am convinced that the millions of men and women whom we represent will approve of our choice."

D. M. G. Candau, newly appointed Director General of the World Health Organization

Dr Candau then addressed the Assembly

I am deeply moved by the honour the Sixth World Health Assembly has bestowed upon me in electing me as Director General of the World Health Organization. I fully realize and appreciate the opportunities and the challenges offered to anybody who is chosen for that great office. At this moment, however, I must admit I am even more keenly aware of the almost staggering responsibility which it carries with it. That responsibility is inherent in the very mandate which the peoples of the world in 1948 gave to the World Health Organization. Nothing could express that mandate more clearly than WHO's Constitution which states that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition, and that therefore the objective of the World Health Organization shall be the attainment by all peoples of the highest possible level of health.

"Thanks to the patience and wisdom of the delegates attending the sessions of the Interim Commission, Health Assembly and Executive Board, these principles have during the last five years resulted in a series of fundamental policies and of programmes of work. The arduous task incumbent upon the Director General in following these decisions is, I think, best symbolized by the names of those who presided over the debates of those bodies. I shall constantly be guided in my work by the intellectual, spiritual and professional qualities of such outstanding personalities in the field of public health as Dr Stampar, Dr Evang, the Rajkumari Amrit Kaur, Dr Scheele, Dr Salcedo, Dr Khater, Dr Shousha, Sir Arcot Mudaliar, Dr Gear, Professor Parisot and Dr Jafar. With your permission, Mr President, I should also like to pay special and personal tribute to the memory of Dr Paula Souza, one of the founders of this Organization, a close friend of mine, whose passionate devotion to the cause of international co-operation provided the main inspiration for my association with the work of WHO.

"Built on the firm foundations of our Constitution, the legacy of five years of work is now being handed over to me by Dr Brock Chisholm. It seems to me that the very

Dr A Stampar (Yugoslavia)

" In respect of expenditure and help given by the WHO there has been a development which has been rightly censured by the Director General in the introduction to his Report namely a threat on the part of several Member States to withdraw from WHO one because it felt that it had not received enough help from the Organization several others explained that a proposal under consideration if adopted might leave them no alternative but to withdraw It is hardly possible to over-emphasize the harm to the Organization and to individual countries which might result from this method of voicing disapproval or disagreement I am sure that every delegate with only a little of the true international spirit in his heart will entirely agree with the Director General "

Appointment of New Director General

Acting upon the nomination made by the Executive Board at its eleventh session⁴ the Assembly appointed Dr Marcolino G Candau as Director General of the World Health Organization Dr Candau accordingly took the oath of office and was presented to the Assembly by the President Dr Khater who sketched the public health career of the new Director General

" the man who has just taken the oath is well known to you I cannot do better than to make my own the homage paid to him two years ago by his illustrious predecessor Dr Brock Chisholm

" Dr Candau has been one of the main architects of WHO's policy and programme in relation to advisory services to governments especially in the promotion of fundamental public health services His wide and practical experience in the improvement of economically underdeveloped areas has been of invaluable assistance to the World Health Organization and has been an essential factor in the development of WHO's programme of technical assistance

At that time Dr Candau had already proved himself in our Organization he had been working for two years at WHO headquarters in Geneva Although unlike Dr Chisholm he was not present at the birth of WHO he nevertheless helped to guide its early steps—first as Director of the Division of Organization of Public Health Services (and you are all aware of the importance attached to this aspect of the Organization's activities) and later as Assistant Director General in charge of the Department of Advisory Services another opportunity for a man of Dr Candau's ability to rise to his full stature

" Finally he was holding the post of Deputy Director of the Pan American Sanitary Bureau WHO Regional Office for the Americas when your decision to appoint him as head of the World Health Organization reached him He had been discharging his important duties there since December 1951 At that time Dr Candau had completed a full circle in his career It appeared that he was destined thenceforth to devote himself exclusively to the health problems of the Americas

He was born at Rio de Janeiro Brazil in 1911 He studied medicine with outstanding success at the Rio de Janeiro Faculty of Medicine and then at the School of Hygiene and Public Health of Johns Hopkins University Baltimore

Subsequently Dr Candau held the post of Director of the Serviço Especial de Saúde Pública This service established by the Brazilian Government and the Institute of Inter American Affairs was given the highly onerous task among others of doing

of non governmental organizations into relations with WHO as approved by the Third Assembly⁵ but recognized that according to these principles there could be no objection to plurality of representation of such organizations in the same fields of activity. Consequently the Executive Board is to take this fact into consideration when deciding whether or not a non governmental organization satisfies the conditions laid down for admission into relations with WHO.

Regionalization

The principle of regionalization was reviewed and several decisions taken with regard to general and specific points

I The Assembly found that the principles which prompted the establishment of the WHO Regions had been justified in practice and therefore reaffirmed these principles and expressed satisfaction with the development of the organizational structure and functioning of the regional offices. However the Executive Board was requested to review and report periodically on the progress and problems of regionalization and the Director General was requested to provide through headquarters staff guidance to the regional offices it being recommended that there be an interchange of staff of the Secretariat among Regions and between headquarters and Regions.

It was noted that differences in the nature and extent of decentralization in the United Nations WHO and other specialized agencies sometimes impeded effective co operation in field programmes the Director General was requested to bring this problem to the attention of the Secretary General of the United Nations.

The questions of holding regional committee meetings at regional headquarters and of paying the travel expenses of members of regional committees to meetings were referred to the Seventh Assembly since further study seemed to be advisable.

2 With regard to the absence because of political difficulties of meetings of the Regional Committee for the Eastern Mediterranean Region the Assembly decided to postpone *sine die* examination of this question considering that WHO is a technical organization which should not be called upon to judge or to determine questions of a political character the settlement of which will not be obtained by a decision of the World Health Assembly. The Assembly expressed the wish that the Regional Committee for the Eastern Mediterranean might provisionally carry out its duties through being divided into two subcommittees the constitution of which would be fixed in accordance with the wishes of the countries con

fact that I follow him in office makes it unnecessary for me to outline here any new programme of action or to submit to you any fresh proclamation of faith. Indeed to all of us and to thousands outside WHO the name Chisholm means far more than just that of the first Director General of WHO. It is a name that has become identified during the last few years with the basic ideals of the Organization: infinite respect for the dignity of man wherever and under whatever conditions he lives; clear and serene vision of the forces which will decide his fate; and unbroken determination to devote every day's energy and work towards the creation of a peaceful world community in which the material, spiritual and cultural progress achieved by each nation will benefit all. I know that I shall deserve the trust you have placed in me if I follow the path which that great leader, Dr. Chisholm, has traced for all those whose hopes for a healthier world are intimately linked to the success of our Organization.

"The task to which I shall devote the next five years of my life is a truly monumental one. I undertake it with humility but also with the strength based on the certitude that I am free from commitments to any national, racial, religious, or political group and will be bound by no obligation except my deep attachment to the established policies and aims of WHO. If despite my limitations I look forward to the future with confidence and optimism it is because I feel that I can be assured of the same support which my predecessor has received from all Member States and governing bodies of WHO. It is also because I am convinced that I can count on the help of all my colleagues in the Secretariat—at headquarters, in the field, and in the regional offices.

"They are working for a cause without precedent in human history and are facing hardships and difficulties which are understood and appreciated only by a few. I want to tell them that I recognize the vital importance for this Organization of a continuing high morale among Secretariat staff. I will do everything in my power to ensure the best possible conditions for the carrying out of our work, which, by increasing the health and happiness of all peoples, shall bring the world closer to enduring peace."

Assembly Decisions

As pointed out by the Acting President at the final plenary session, the Assembly is "primarily a business meeting of governments." The business of the Sixth Assembly was carried out as at previous Assemblies mainly through the work of two committees: the Committee on Programme and Budget, which reviewed the Annual Report of the Director General and the programme and budget proposed for 1954; and the Committee on Administration, Finance and Legal Matters, whose task it was to review the financial position of the Organization, to determine the scale of assessments for 1954, and to review the parts of the 1954 budget dealing with organizational meetings and administrative services.

The Assembly was faced with a number of problems which had presented considerable difficulty for some time, and took many decisions on a large variety of subjects.

Relationships with non governmental organizations

After having carefully studied this question, the Assembly adopted a resolution in which it held to the general principles governing the admission

Membership and organization

Nepal was admitted to membership in the World Health Organization making the total number of full Members 80. At the request of its Government the new Member was assigned to the Region for South East Asia.

The Associate Membership accorded to Morocco at the Fifth Assembly was at the request of the Spanish Government extended to the Spanish Protectorate Zone of Morocco.

The proposal of the Executive Board ⁶ that Associate Members should have voting rights in regional committee meetings and at the same time be subject to increased contributions to the WHO budget was considered premature by the Assembly which invited regional committees to comment on the advisability of such a change. There are now three Associate Members: Morocco, Southern Rhodesia and Tunisia.

Special provisions with regard to the contribution of the Republic of China were voted so that this country might resume active participation in WHO. This question will be reconsidered by the Executive Board and/or the Health Assembly in 1954.

Six Member States were elected to designate a person to serve on the Executive Board: Austria, Costa Rica, Indonesia, Iraq, Switzerland and the USA. They replace Chile, France, Italy, Pakistan, El Salvador and Thailand.

Programme of activities

The Assembly reviewed and approved the Director General's proposed programme for 1954 as contained in *Official Records* No. 44 and modified by the amount of the approved effective working budget for 1954.

Other decisions relative to the Organization's future activities included:

(1) a request that the Executive Board proceed with a detailed study of the worldwide campaign against smallpox which was proposed at its eleventh session ⁷ and report thereon to the Seventh Assembly.

(2) a recommendation that the Director General include provision for a programme in dentistry in his programme and budget for 1955 as far as financial possibilities will allow.

(3) an invitation to the Director General under the authority of the Executive Board to undertake a preparatory study (suggested by the Belgian Government) of the problems relating to international medical law and comparative health legislation and to report on this study at a future session of the Executive Board.

(4) an expression of satisfaction with the general development of the Organization's education and training programme as revealed by the

cerned, and requested the Director General to continue to supply technical aid and services to all Members of the Region

3 Assignment of territories to geographical areas has given rise to some difficulties. However, the Assembly decided to defer the establishment of rules and criteria to be applied in making such assignments until the results of studies undertaken by the United Nations and other specialized agencies have become known. In the meantime Member States Associate Members, or territories will be assigned to geographical areas by the Assembly in accordance with the principles hitherto adopted. The Director General was requested to study the possible redelineation of geographical areas.

The Assembly made provisional assignment of specific territories to geographical areas the Director General being asked to examine any objections which might be raised and to report on this matter to a future Assembly, when the results of the aforementioned studies have been received.

I African Area Ascension Mauritius, Morocco (Spanish Zone), Spanish Sahara (and island dependencies), St Helena Seychelles, British Somaliland Tristan da Cunha Zanzibar

II Area of the Americas Falkland Islands and dependencies Hawaii

III South East Asia Area Maldives

IV European Area Algeria (French Departments), Gibraltar Greenland, Malta Morocco (French Zone) Tunisia

V Eastern Mediterranean Area Bahrain, Kuwait, Qatar Somalia Trusteeship Trustal Sheikhdoms (Abu Dhabi Dubai Sharjah, Ajman Umm al Quaiwain, Ras al Khaima, and Fujairah)

VI Western Pacific Area Brunei, Fiji, Gilbert and Ellice Islands, Guam Hong Kong New Hebrides New Zealand Island Territories North Borneo Pacific Islands Trust Territory American Samoa Sarawak, Singapore British Solomon Islands Protectorate, Tonga other United Kingdom of Great Britain and Northern Ireland possessions in the South Pacific

Frequency of Assembly sessions

Another point of major importance was the proposed amendments to the Constitution regarding the frequency of Assembly sessions. The Sixth Health Assembly after duly studying the relevant documentation considered that it was not yet desirable to provide for the establishment of a system of biennial assemblies and decided not to accept the proposed amendments to the Constitution for the time being. This matter will be considered again at a future Assembly.

to keep the Executive Board informed of the development of the negotiations the Board being delegated full powers to approve the final settlement

Special consideration was given by the Assembly to the costs involved in financing national training courses which are important in the provision of personnel to meet specific health needs in individual countries. It therefore adopted a five year plan for financial subsidy of such courses organized with the assistance of WHO

An expenditure from the Publications Revolving Fund in an amount not to exceed \$10 000 in 1954 was authorized for use in publicizing and promoting the sale of WHO publications

Technical Assistance programme

A review of WHO's participation in the United Nations Expanded Programme of Technical Assistance was necessary in view of the drastic cut in funds made available to the Organization—a matter which was the subject of considerable debate at the eleventh session of the Executive Board⁹. The Assembly noting that a study of the administration of the Technical Assistance programme is being undertaken by the Technical Assistance Board

(1) requested that the Director General report to the Executive Board at its thirteenth session on the developments resulting from this study

(2) deferred to the Seventh Assembly consideration of this matter

(3) approved the arrangements made by the Executive Board and the Director General to use all the resources available to WHO in 1953 in such a way as to produce as little disruption as possible of the planned programme

(4) voiced its appreciation of UNICEF's aid in solving the financial problem in 1953

(5) expressed the hope that longer term arrangements for financing future programmes might be made and that in future the annual Technical Assistance programme of WHO might be planned by categories of urgency so that projects might be carried out in order of importance and to the extent of available resources

In considering the proposed programme for WHO participation in the Technical Assistance programme in 1954 the Assembly endorsed the criteria established by the Executive Board¹⁰ approved the adjustments in the original programme proposals which had been suggested by the Director General and authorized the implementation of the programme according to the priorities proposed by him gave the Executive Board authority to act on its behalf in connexion with any aspect of this pro

⁹ See Ch II of the Hlth Org 1953 7 113

¹⁰ Off R Hlth Org 46 vol 1 p EB11 R376 see also Chro World Hlth Org 1953 7 114

study made by the Executive Board,⁸ and a request to the Director General that this programme be further developed along lines suggested by the Board and the Assembly

Budget and finance

Financial problems loomed large in the Assembly's business this year, particularly because of reductions in Technical Assistance funds. However the financial position in so far as the regular budget is concerned was reported to be sound. 95% of the contributions for 1952 due from active Members have been collected and only 17% of the contributions from active Members to the Working Capital Fund were outstanding at the time the Assembly met. The Working Capital Fund for 1954 is to remain at its 1953 level \$3 381 586.

The budget level for 1954 was set at \$9,838,000 and the effective working budget at \$8 497 700 which represents an increase of \$12 605 over the 1953 ordinary working budget of the Organization. This amount is to be appropriated as follows:

	<i>US dollars</i>
Organizational meetings	291 350
Central Technical Services	1 544 847
Advisory Services	4 357 963
Regional Offices	1 149 277
Expert committees and conferences	135 757
Administrative services	1 018 506

The study of the scale of assessments of Members and Associate Members was postponed until the first session of the Executive Board in 1954, this study to be made in the light of the practice of the United Nations and the recommendations or comments which the Board may receive from Member States. The assessments for 1954 are to be fixed at the same scale and under the same provisions as for 1953 with the addition of 10 units for the new Member State Nepal.

Arrears of contributions to the Organization and in respect of the Office International d'Hygiène Publique were also the subject of resolutions. With regard to the former it was decided that if a Member is in arrears in the payment of its financial contributions to the Organization in an amount which equals or exceeds the amount of the contributions due from it for the preceding two full years at the time of the convening of the World Health Assembly in 1955 the Assembly may consider in accordance with Article 7 of the Constitution whether or not the right of vote shall be granted to such a Member. The Director General was authorized to negotiate with States in arrears of contributions to the Office International d'Hygiène Publique in order to arrive at a settlement of these debts and

Eighth (1955) Assembly in Mexico City is to be studied by the Director General who will submit a report to the Executive Board which will in turn report on this subject to the Seventh Assembly

LÉON BERNARD FOUNDATION AWARD

One of the assignments of the World Health Assembly is the awarding of the Leon Bernard Foundation prize for contributions to social medicine. This year the award was made to Dr J Frandsen of Denmark for his outstanding scientific and practical contributions to the progress of social medicine in his own country.

The President of the Assembly briefly recalled the history of the award and summarized the achievements of its fourth recipient.

" In giving effect to the provisions of the Foundation's Statutes the World Health Organization follows a tradition which was established in 1934 by the Health Committee of the League of Nations in memory of one of its most eminent members Professor Léon Bernard. The first to win the prize was Dr Wilbur A. Sawyer to whom it was awarded in 1939, the second was Dr René Sand in 1951 and the third last year was Professor Charles Edward Amory Winslow. In 1953 it is to Dr Frandsen that the distinction falls.

Dr Frandsen was born in 1891. After extensive medical studies he rapidly made himself familiar with medico-social problems, particularly while exercising his functions on the invalidity insurance board, which he assumed in 1921. In 1927 at the urgent request of prominent medical personalities he interrupted a promising career in the hospitals to enter the Danish National Health Service, of which he was appointed Director General in 1928. In this capacity he immediately undertook the important task of reorganizing not only the National Health Service itself but all public health institutions in Denmark as well.

Dr Frandsen's first concern was to develop a network of tuberculosis clinics and of hospital facilities throughout the country. One of the results of this campaign has been that since 1944 every county and town in Denmark has had a tuberculosis clinic serving both urban and rural areas.

" Dr Frandsen has personally done a great deal to interest the inhabitants of rural areas in the hygiene of cattle sheds and in wholesome milk, with the result that the farmers are very ready to request and to accept the assistance which veterinary medicine can give them. At the same time Dr Frandsen took part in the campaign undertaken by Bernhard Bang against bovine tuberculosis. Since 1952 tuberculosis has disappeared from Danish livestock.

When Dr Frandsen took office there were scattered through the country numerous hospitals directed by general practitioners but there were very few large hospitals giving specialized services. It was for this reason that in 1929 Dr Frandsen proposed a radical reorganization of the hospital system and during the years that followed he expounded his ideas at numerous meetings of county and municipal councils. His plan was that urban and rural areas should collaborate for the creation in each county of a central hospital to be reinforced by smaller hospitals which would have modern equipment and be under the direction of a practitioner with training in surgery who would receive assistance from the specialists at the central hospital. The large sums necessary for this reorganization and expansion of the hospital system throughout the country were voted spontaneously by the local authorities. This stage has now been completed.

gramme, requesting that the Board report to the Seventh World Health Assembly on any modifications which had been deemed necessary, and authorized the Director General to continue to take the action necessary for WHO to participate in the United Nations Expanded Programme of Technical Assistance

International Sanitary Regulations

The Assembly considered and adopted a report on the rejections and reservations to the International Sanitary Regulations submitted by governments in respect of their overseas and outlying territories and asked that this report be transmitted to all governments

With regard to questions and disputes arising out of the application of the Regulations, the Director General was requested to settle them if possible, referring such questions or disputes to the Committee on International Quarantine when he is unable to effect a settlement. The Assembly established the terms of reference of this committee

Other business

In other resolutions adopted by the Sixth World Health Assembly

WHO's agreement with the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWAPRNE) was extended until 30 June 1954, or until the dissolution of the Agency if this should take place before that date

A special benefit was voted for the retiring Director General the benefits payable under this resolution and under the Joint Staff Pension Fund together to equal \$5 000 annually

It was recommended that campaigns be undertaken to convince doctors and governments that diacetylmorphine (heroin) is not irreplaceable for medical practice and that Member States which have not already done so abolish importation and production of this drug

The Executive Board was requested (a) to review and clarify the procedure to be followed in the selection of international non proprietary names for drugs (b) to study the standardization of laboratory tests for food, since the increasing use of various chemical substances in the food industry has engendered a new public health problem (c) to study at its twelfth session, the matter of the organization and conduct of technical discussions at future Assemblies, in the light of the recommendations made during the current Assembly and (d) to give particular attention at its thirteenth session to a study of programme analysis and evaluation

Future Assemblies

It was decided that the Seventh World Health Assembly would meet in Switzerland. An invitation from the Government of Mexico to hold the

have worked and are still working in its service towards health and strength for the great majority and towards securing for all the sick an opportunity of receiving the necessary medical attention at home or in hospital

In this gathering we all know how different are the problems and the conditions in the various parts of the world so different that the superficial observer may be tempted to ask how we can possibly achieve practical results and what advantage and help we can obtain by coming here to work on all these many different problems—which moreover we each regard and evaluate from the point of view of our own individual circumstances. These differences are not due solely to the nature of the diseases and the climatic conditions. Political and social conditions as well as educational and social standards vary from one country to another and take an equal part in making the picture of health work all over the world so rich in colour and in the strong contrasts of light and shade.

"In my country the foundation of our national health system was laid in the years round about 1800 by means of a health legislation that was very comprehensive judged by the standards of that time. I need mention only a few of these laws. The year 1790 saw the enactment of compulsory notification of all cases of venereal disease (syphilis) together with the duty of syphilitics to submit to treatment—but at the same time free treatment was offered. In 1806 local governments were called upon to build and carry on as many hospitals as were required with this was laid the financial and administrative basis of our hospital system today. Local health by laws administered by health committees were introduced by law in 1838. These by laws deal with the hygiene of the dwelling house in practically all its aspects, the manufacture and distribution of foodstuffs and so on. In 1892 by means of its first sickness insurance act (the "sick clubs") parliament recognized the duty of society to provide medical assistance and treatment for the poorer classes.

"I have mentioned these few but outstanding examples in order to indicate the nature and the extent of the health legislation of former times. To all this I must add our multifarious social legislation built up during the past sixty years. But what I would particularly stress in this very brief survey is the cultural development of the common people with the Danish folk high school founded by Grundtvig as its keystone. With the emancipation culturally and materially which turned the eighteenth-century peasant into the nineteenth-century free farmer and later with the fight of the Labour movement for better material conditions associated with a work of popular enlightenment which also pressed the folk high school into its service the lower class as a concept disappeared in Denmark.

The epoch in the evolution of the Danish health system extending over the last quarter of a century (and referred to by you Mr. President in your kind words to me) covers the elaboration and reorganization of already existing sections of our health work as well as the creation of new ones by means of legislation of many kinds. In this the prevention of disease, the preservation of health was given pride of place alongside the provision of medical attention for the sick. The most valuable part of this new creation is the introduction of health control for expectant mothers and for children up to the age of 15 years.

The great happiness was granted me in these years of being at the head of the National Health Service whose duty it has been to be both expert adviser and expert initiator in the work performed in that quarter of a century. But you will understand that it is not only reasonable but an imperative duty for me to emphasize the great work done not only by the Danish parliament but in equal measure by the local councils—as well as the sympathy and interest of the population in that work. Within this period Denmark became fully provided with tuberculosis dispensaries established and carried on by the local authorities (county and town councils). It was also the local bodies which district by district carried out the reorganization of the hospitals along the proposed lines providing the homogeneous hospital system which today ensures modern hospital treat-

In the hospital reorganization the end aimed at and achieved was the provision in general hospitals of five beds per 1 000 inhabitants (not including beds for patients suffering from tuberculosis epidemic diseases and mental disorders) but Dr Frandsen realized that the subsequent modernization of hospital equipment must be based on exact knowledge of morbidity in the Danish population and of the forms of treatment required. In the 25 years during which he has held his post Dr Frandsen has accumulated a mass of information for the elucidation of these questions and one of the first results of his efforts was the establishment just a few years after he took up his duties of a complete medical statistics office within the National Health Service. In 1951 the Rockefeller Foundation the World Health Organization the Danish Government and various private Danish institutions placed at the disposal of the statistical office sufficient funds to enable it to undertake a general survey of morbidity in the country as a whole this survey is at present still being carried out.

Dr Frandsen's interest in disease control led him early in his career to concern himself with preventive medicine. Thus he undertook studies of questions connected with the nutrition and diet of the population and of housing questions. During the past five years Dr Frandsen's work on preventive medicine has led to the promulgation of legislation which very clearly shows his influence. Among these legislative measures may be mentioned the law of 1945 concerning health during pregnancy which provides for three free medical examinations of all women during pregnancy and for seven check up visits by midwives the law on the child health protection which provides free medical examinations for all children (three examinations during the first year and one per year thereafter) and the law of 1946 concerning school medical officers which provides that a physician shall be attached to all educational establishments whether private or State owned.

" This legislation is based largely on the role of the family physician who is one of the principal artisans in preventive medicine. Being the family medical adviser he not only treats patients in the home and arranges for them to be admitted to hospital when necessary but he also collaborates with the school medical officers in the examination of schoolchildren. The most striking feature of this legislation is that there is no compulsion it merely places certain services at the disposal of the public. These services are available to all and are free.

During his many and varied activities Dr Frandsen has participated in numerous government commissions and held many public offices in both medical and scientific fields. He was a member of the Danish parliament from 1947 to 1950. In addition he is the author of many scientific studies and of popular articles in Danish and in English on medical and medico-social questions.

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In accepting the award Dr Frandsen addressed the Assembly as follows:

I wish to express my thanks for the great honour bestowed upon me today by the World Health Organization's assembly of delegates in awarding to me the Léon Bernard Foundation Medal and Prize. But I am certain that it will be in accord with the feeling of this gathering if in this award I also see a recognition of my country's health system as a whole so that I feel I share the honour with all those who each in his own capacity

have worked and are still working in its service towards health and strength for the great majority and towards securing for all the sick an opportunity of receiving the necessary medical attention at home or in hospital

In this gathering we all know how different are the problems and the conditions in the various parts of the world so different that the superficial observer may be tempted to ask how we can possibly achieve practical results and what advantage and help we can obtain by coming here to work on all these many different problems—which moreover we each regard and evaluate from the point of view of our own individual circumstances. These differences are not due solely to the nature of the diseases and the climatic conditions. Political and social conditions as well as educational and social standards vary from one country to another and take an equal part in making the picture of health work all over the world so rich in colour and in the strong contrasts of light and shade.

* In my country the foundation of our national health system was laid in the years round about 1800 by means of a health legislation that was very comprehensive judged by the standards of that time. I need mention only a few of these laws. The year 1790 saw the enactment of compulsory notification of all cases of venereal disease (syphilis) together with the duty of syphilitics to submit to treatment—but at the same time free treatment was offered. In 1806 local governments were called upon to build and carry on as many hospitals as were required with this was laid the financial and administrative basis of our hospital system today. Local health by laws administered by health committees were introduced by law in 1858. These by laws deal with the hygiene of the dwelling house in practically all its aspects, the manufacture and distribution of foodstuffs and so on. In 1892 by means of its first sickness insurance act (the "sick clubs") parliament recognized the duty of society to provide medical assistance and treatment for the poorer classes.

I have mentioned these few but outstanding examples in order to indicate the nature and the extent of the health legislation of former times. To all this I must add our multifarious social legislation built up during the past sixty years. But what I would particularly stress in this very brief survey is the cultural development of the common people with the Danish folk high school founded by Grundtvig as its keystone. With the emancipation culturally and materially which turned the eighteenth-century peasant into the nineteenth-century free farmer and later with the fight of the Labour movement for better material conditions associated with a work of popular enlightenment which also pressed the folk high school into its service the lower class as a concept disappeared in Denmark.

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ished we work in the service of all humanity for the life and health of the individual wherever he may live and whoever he may be. The nations send us here in order that through our work together we may confirm the equal value of all men, strengthen the feeling of fraternity between the peoples—and with that the peace of the world.

"May that work succeed!"

FAREWELL ADDRESS OF DR. BROCK CHISHOLM

The Sixth World Health Assembly, which is drawing to a close, also marks the end of my seven years' association with the work of the World Health Organization. I feel that I owe it to those who have honoured me with the office I am about to relinquish, and to all the peoples represented in this organization, to say a few words about the progress WHO has made towards the objectives of world health and world peace. I will try to summarize our major achievements, as well as the essential problems which remain to be solved if the aims defined in WHO's Constitution are to be attained.

The results obtained by WHO in recent years do not need to be emphasized in this gathering. It is indeed clear to all of us—and it is also becoming clear to an increasing number of people outside the Organization—that from the blueprint of 1946 WHO has been turned into a going concern. What seven years ago was only a concept has become a living reality. Throughout the five continents, experts and teams of WHO are today assisting national health authorities in developing and perfecting their means of controlling illness and of assuring better health. Because of WHO and all those working beside WHO, epidemics and diseases which hitherto have been killing and incapacitating millions of people are no longer considered as normal hazards of human life, although they still exist. Thanks to a great number of health projects undertaken individually or collectively by the States which joined in WHO, there is fresh hope for the great majority of the populations of the world whose strength to live and capacity to work are still undermined by ill health. Above all, for the first time in history there is today a worldwide organization endowed with the power of direction and co-ordination, an organization which can see to it that internationally available means—so badly needed for the improvement of health and so limited in scope—are used in the most economical and effective manner.

It must not be forgotten, however, that we are only at the very beginning of a long and challenging endeavour. Whether the promises which for the peoples of the world have become identified with the very name of WHO can be fulfilled will depend on the extent to which a number of conditions which are essential to the success of the Organization can be met.

ment to every citizen of Denmark no matter where he lives. The administration of our health control is placed in the hands of the local authorities and in many other spheres of hygiene and health it is the popularly elected local bodies which have the care of important assignments naturally in close co operation with the officials of the National Health Service the local health officers.

As the son of a farmer in an agricultural country however I cannot but remind you that while tuberculosis mortality among the people has fallen from 78 per 100 000 in 1927 to 11 per 100 000 in 1952 tuberculosis among our cattle has been completely eradicated in the same period and thus a dangerous front in the fight against tuberculosis has been closed off victoriously. This result has been achieved by great educational work and financial sacrifices on the part of the dairy farmers. They are continuing their hygienic endeavours now directed mainly towards the eradication of contagious abortion and mastitis. The National Health Service has found it easy to establish a sympathetic co operation with the dairy farmers.

From what I have said about the conditions under which I have been able to do the work which today has been submitted to your evaluation it will be understood that next after my thanks to the Assembly my thoughts turn in gratitude to my country and the people to whom I belong and whom I serve to the Danish parliament and the popularly elected councils who have always lent a ready ear to counsel and suggestion and of course to my collaborators in the more intimate sense the doctors and the nurses but perhaps more particularly to the individual man and woman who appreciate the value of the work. More than 99 out of every 100 homes open their doors to us when we knock with our health control and a great majority accept our invitation to vaccinations for example we were able to close our departments for diphtheria patients only a very few years after general but voluntary diphtheria vaccination had been introduced. I am firmly convinced that we get right to the bottom of things in health work only when the whole population can be won over to co operate. This requires democracy and it requires education.

"Now what pleasure can others derive from hearing about a small nation of about four million souls which has had the good fortune and the ability to arrange things so well for itself that good conditions have been established—on the health side too—in some respects better than in many countries? And particularly what profit can others have from it and this Assembly from hearing me talk about it?"

It is true that physicians for many years have been in the habit of learning from one another in different countries mutual scientific interests have given splendid practical results and brought about great mutual help but international intercourse and co operation in this field have also borne the impress of a certain form of competition. That is the great thing about the decision of the United Nations to establish a world health organization for mutual work and aid in order to accomplish the joint purpose to liberate mankind from the heavy scourge of epidemics and to get health and strength protected and helped on. The character of the competition has been changed it is no longer the point to spend all our energies on getting there first but to build up a reserve to help the hindmost to get more quickly to the goal.

Whenever I receive a letter from the Director General saying that he wants first one then another Danish physician to take part in the work down here be it the special insight and knowledge of a professor that is wanted for lectures and demonstrations or the work of a younger specially trained man and whenever I am advised that foreign colleagues intend to visit my country for the purpose of studying this or that I am filled with great and sincere joy. For in this I see that one's work for one's own country and people acquires value and importance just as we have found and ever increasingly seek and find help and inspiration in colleagues and fellow workers in other countries. Frontiers become demolished our work at home becomes a work for all mankind but still it is work for the individual person his life and health. Frontiers become demol

of world health with little or no concern for national or group interests or prestige. Much of the future of the World Health Organization will depend on the continuing ability of Member States to send to the governing body people whose vision encompasses the health needs of the world as a whole and not just those of a group of nations or of one particular country. This is particularly important where the Executive Board is concerned which will be able to play its valuable role as technical adviser and executive organ of the Assembly only if it is bound by no obligation except the one it has towards the Assembly itself. I firmly believe that any renewed attempt to amend the extremely wise provisions contained in the Constitution of the World Health Organization concerning the absolute independence and impartiality of the members of the Executive Board would be a fatal blow to the future work of this organization. I am confident that if the Secretariat which in the next five years will profit from the expert and dynamic leadership of Dr Cindau is granted absolute freedom from coercion which may be attempted by any group it will continue to carry out the decisions of the Assembly and of the Board still more efficiently than it has been doing since its inception years ago. A harmonious relationship between a world minded Assembly, an independent Executive Board and a free and reliable Secretariat can overcome practically all handicaps which might interfere with the fullest realization of WHO's potentialities.

It is fortunate that the Secretary General of the United Nations has chosen to attend this meeting of the Assembly. His presence here emphasizes another essential aspect of the World Health Organization's work which is also of great importance to the other members of the United Nations family. As we go on with our specialized work in WHO and in the other agencies we tend to become absorbed in our own particular assignments and to lose sight of the paramount aim for which each of our organizations was created—namely to lay the economic and social foundations for a lasting peace. One immediate result of such an attitude could be that in a certain sense we might defeat the very purposes which our individual agencies are serving. It is indeed clear that keeping in mind the interdependence of the economic and social factors in our society gains in one specific field tend to lose their value unless they are accompanied by advances in other fields. What I am saying is simply that the word progress has little meaning today unless it is applied in a total sense. It is obvious for example that even if health campaigns are carried out successfully in a community they do not promote social progress merely by restoring the health and the working capacity of a number of its members. There has been no social progress if the physically rehabilitated people merely swell the ranks of the unemployed, the dissatisfied or the hungry. The extra labour gained through such campaigns will mean progress only if the people freed from disease are assured of capital investment for production and stabilized markets for distribution if they are thus guaranteed



Dr. Brock Chisholm, Executive Secretary, Interim Commission of the World Health Organization, 1948
1948 Director General, World Health Organization, 1948-1953

One of these conditions is the participation of *all* nations in the work of WHO. The whole concept of this organization all the principles included in its Constitution, are based on this simple truth: in our shrunken world health like peace and security is indivisible, and mankind's fight against illness, its major enemy, can be won only through the concerted effort of all. The hopes we had five years ago that WHO as a non-political body, could be spared the frustrating effects of a politically and psychologically divided world community have unfortunately not been realized. There is no valid excuse for any nation to stand aside from an inter-

national effort whose sole purpose is to render the peoples of all countries physically and mentally healthier and stronger. I sincerely hope that the principle of universal solidarity which presided over the birth of this organization will again find its full exemplification in the World Health Organization.

The lack of adequate financial means is another factor which is impeding the work and if not adjusted may seriously interfere with the progressive development of this organization. What WHO is now spending on international action for the protection of the health of the men, women and children of the world is no more than the amount many a large city spends on its own municipal sanitary arrangements. Indeed the budgets of the Organization have been and are ridiculously small when viewed against the background of the tremendous health needs of a world in which two thirds of the population is still deprived of the benefits of modern scientific and medical knowledge. If the World Health Organization is to help effectively to close the gap which now separates a healthy minority from a majority which continues to live in bondage to disease and misery, it will have to be given the budgetary means to do so.

If despite the two handicaps just mentioned WHO has been able to achieve so much in the very short time since its inception this is because it was guided by Assemblies which accepted their responsibility in the cause

reverted to techniques and methods which the evolution of technology and science has made entirely obsolete. We are caught in a vicious circle which if unbroken, cannot but result in the destruction of our civilization. On the one hand we know and constantly proclaim that the more fortunate nations must be ready to invest an important part of their resources to banish the fear of war (which sooner or later may well lead to war) caused primarily by economic and social insecurity prevailing in the larger part of the world. On the other hand it is precisely the fear of war which prevents many governments from embarking upon the economic rehabilitation of the underdeveloped areas. We are being told indeed that at this time overriding priority must go to rearmament and that no plans for large scale economic development can be undertaken until the threat of war subsides. And so we witness the spectacle of governments spending billions of dollars for defence while the same governments profess themselves unable to devote some 40 million dollars to financing one year's operation of the United Nations Technical Assistance programme generally considered as a vital sector in our attempt to build for peace through positive means. The glaring contrast between the tremendous sacrifices we are forced to make for the piling up of instruments of war and destruction and the insignificant amount of energy and money we spend for constructive purposes is symbolic of the challenge modern man is facing.

This is a challenge which is without precedent in history. Man must now learn to live with himself and to get along with all others in a world in which the dimensions and perspectives have radically changed from those of the past. He must reshape his entire pattern of thinking and behaviour in order to build up a completely new system of human relationships adjusted to a changed world. He must realize that ruthless competition the old rule of survival has at this stage of scientific and technological development become synonymous with suicide for all of us and that it has to be replaced by co-operation based on mutual understanding, compromise and agreement.

In order to achieve this each one of us must learn that the welfare of his own nation is today dependent on the welfare of all nations and that therefore we must acquire and above all help our children to acquire an equal degree of concern for the welfare of all members of the world community irrespective of differences in race, religion, colour or any other group characteristics. The struggle for prestige which leads to attempts to force a group or individual will on others is a primitive and outmoded behaviour pattern. While many millions of people have not yet realized that fact other millions are learning to appreciate and admire the ability to compromise, to be helpful, to be concerned equally with the welfare of all people, to sacrifice something of individual, local or group interest for the common good. These abilities are gradually but ever increasingly

sufficient work and, in addition are enabled to provide adequate educational and cultural facilities for themselves and their children. On the other hand, neither investment of capital nor improvement of agricultural methods will lead to increased productivity in an underdeveloped country unless adequate measures are being taken to raise the health standards of the people to a degree which will allow them to work efficiently in both agriculture and industry.

The truth that nothing short of a worldwide and concerted effort could stamp out the economic and social conditions of war was clearly conceived by the nations in 1945. In a natural reaction to the horrors of the last war and even more so to the greater horrors which a new explosion in international life would have in store for mankind the peoples of the world gave to their representatives in San Francisco a precise and binding mandate to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained and to promote social progress and better standards of life in larger freedom. You have certainly recognized in the last sentence two principles contained in the United Nations Charter and indeed nothing could express the aspirations of the world better than the admirable formulations of principles on which the United Nations and all its agencies are built. I beg your permission Mr. President to take the time of the Assembly to quote a few passages from the preambles of the Constitutions of the agencies which clearly show the magnitude of the task assigned to them. Since wars begin in the minds of men it is in the minds of men that the defenses of peace must be constructed, states UNESCO's Constitution and it adds that the wide diffusion of culture and the education of humanity for justice, liberty and peace are indispensable to the dignity of man. The members of the Food and Agriculture Organization pledge their resources to promote the common welfare by raising levels of nutrition and standards of living of the peoples under their respective jurisdictions and by generally contributing toward an expanding world economy. All activities of the International Labour Organisation derive from the principle recognized in its Constitution that universal and lasting peace can be established only if it is based upon social justice. As to the World Health Organization its principal aim is to help every human being to reach the highest attainable standards of health because as the preamble of its Constitution affirms the health of all peoples is fundamental to the attainment of peace and security.

We must admit that we have so far failed to live up to the great hopes men and women throughout the world have placed in us. Despite occasional upsurges of international concern for the social and economic well being of the underprivileged populations of the world—and I am thinking of Point IV, the Colombo Plan, the United Nations Technical Assistance programme, etc.—the nations of the world have in their search for security,

Canada directly or indirectly except through entirely official channels and as recorded in the transactions of the Organization

The support advice and encouragement given to me by all the officers and members of the Interim Commission six World Health Assemblies and eleven Executive Boards have greatly enriched my experience and enabled me to serve the Organization to the limit of my own capacity I am deeply grateful not only for all that help but also for the unstinted friendships given with it

Lastly to all the Secretariat—all I hope my friends though many not as intimately so as I should have liked—I can only say simply thank you I have no words to express my full gratitude for the way in which all of you have carried your share indeed often far more than any fair share of our common responsibility Many times have I felt myself unworthy of my position in leading such a volume and such quality of devotion—it has often been hard to live up to For my failure I beg your charitable forgiveness and for our common successes—thank you

recognized as the marks of developing maturity, whether in nations or in individuals

Viewed against this background—and it is the only valid measure we can apply today to whatever we do—the most important value of the World Health Organization or of any other part of the United Nations system does not lie in any measurable or reportable result it may have achieved. Its contribution to the solution of the problems of man learning to live peacefully with man can be found in the evidence it provides that men belonging to widely different political, social and religious systems can and usually do participate in genuine international co-operation, based on fraternal association and excluding domination by any country or group of countries.

For this generation there is no sane alternative but to accept with courage and determination the realities of a new era. The time for courage and determination and action—even if it may be for martyrdom, is now. The place is here wherever we may be and whatever our responsibilities at the moment. Every action, every word, works for or against the great ideal of peace on earth. We, the peoples of the world, not only in the councils of the nations but far more importantly in our daily living will decide whether we and our children will live and die in misery and fear far worse than anything we have known or whether we and they can construct and enjoy a happy and peaceful world community. Again, the time for action is now!

To turn briefly to more personal matters. I shall not attempt to evaluate my own experience of working for and with the World Health Organization for the past seven years: only a longer perspective could make that possible. These have been strenuous years, alive with difficulties but bringing many and great compensations in friendships established in nearly all the countries of the world. The feeling of being welcomed everywhere and the kindly hospitality of governments, health ministries, hospitals, institutions of many types and indeed of all kinds of people is a heart-warming and encouraging experience.

Here in Switzerland WHO has found an ideal host. Government, the federal authorities and those of the Republic and Canton of Geneva and of the City of Geneva have been most helpful in every possible way to the Organization and to me personally. Never has any of these authorities attempted to influence the policies or the attitudes of the World Health Organization either directly or indirectly. For this forbearance I should like to record my deepest gratitude and appreciation.

Also for the record I should state publicly that never during the seven years of my term of office has the Government of my own country, Canada, made any suggestion to me about any policy of the Organization nor indeed have I ever received any communication from the Government of

Assembly Notes

Burmese Delegates Die in Aeroplane Accident

Announcement was made at the opening session of the Assembly that the two members of the Burmese Delegation Dr Ba Maung Port Health Officer Rangoon and Dr C C Po Assistant Director of Health Services for Burma had been killed in an aeroplane accident near Calcutta on their way to attend the Assembly. Expressions of sympathy on behalf of the Assembly were sent to the Government of Burma and to the families of the deceased delegates.

Sixty nine Member States Represented at Assembly

The Sixth World Health Assembly was attended by 69 Member and Associate Member delegations. Also present were observers from 3 non Member States and representatives of 36 various organizations—the United Nations, the specialized agencies, intergovernmental agencies and non governmental organizations.¹¹

Assembly President Stricken by Illness

Dr M Khater President of the Assembly was stricken by a sudden illness and was unable to preside over the last two plenary meetings. He asked Dr Melville Mackenzie (United Kingdom of Great Britain and Northern Ireland) one of the elected Vice Presidents to act for him. In announcing the President's illness, Dr Mackenzie said: "Our present Assembly has been faced with many problems, many unfortunately entirely outside the field of medicine, but we have felt that as our leader we had a wise man with the deep human understanding of a doctor."

Secretary General of the United Nations Addresses Assembly

Mr Dag Hammarskjöld, new Secretary General of the United Nations, addressed the penultimate plenary session of the Assembly. In his speech, Mr Hammarskjöld emphasized the importance of an appropriate relationship between the work of the United Nations and that of its specialized agencies, and commended the retiring Director General of WHO for his contribution to both, commenting specifically upon the farewell address which Dr Chisholm had just delivered.

It is a special privilege to be able to be the first to pay tribute here, however briefly and inadequately, to Dr Chisholm's great statement of achievement, courage and hope, and at the same time to pay tribute to Dr Chisholm himself, a great Director General and a great man, to whom the whole family of United Nations Organizations is profoundly indebted.

DR MURCHED KHATER

President of the Sixth World Health Assembly



Dr Murched Khater was born in Syria in 1888. He obtained his medical degree in Beirut in 1910. In 1920 he was appointed to the Medical Faculty of the Syrian University of which he was one of the founders and first professors. He later became head of the University's Department of Surgery.

Dr Khater served as Chief Surgeon of the Syrian Army from 1948 to 1952. In May 1952 he was appointed Minister of Health of Syria.

Dr Khater is a member of the Association française de Chirurgie and President of the Société de Médecine Chirurgie, Damascus.

**TECHNICAL DISCUSSIONS AT THE
SIXTH WORLD HEALTH ASSEMBLY**

Tuberculosis

Syphilis

Typhoid Group of Fevers

In your statement Dr Chisholm you said that for this generation there is no sane alternative but to accept with courage and determination the realities of the new era. These realities are such as to call for a rallying of all forces for the creation of such a life for men and nations as makes peace and freedom possible and gives to those words their full and rich meaning. You have made a noble and important personal contribution to this end and under your guidance this Organization has been brought through and beyond its formative period. I trust that its work will be pursued in your spirit for the benefit of all and as an essential part of the work for the ends which as you pointed out have found a noble expression in the Charter of the United Nations.

TECHNICAL DISCUSSIONS

Dr J Salcedo (Philippines) was elected General Chairman of the technical discussions held in connexion with the Sixth World Health Assembly. In his comments to the Assembly on the discussions Dr Salcedo said

" the technical discussions this year were limited to three well-defined subjects: tuberculosis, syphilis and the typhoid fevers. The purpose was an exchange of views among public health administrators on the most economical way of applying modern health techniques concerning these diseases. Those delegates and observers who expected to hear new discoveries and the latest technical developments in the fields may have been slightly disappointed, but it was explicitly indicated at the beginning of our work that no discussions between experts on details of modern techniques was contemplated. Wherever the discussions had a tendency to go in that direction, the chairmen of the groups guided the discussions back to their real purpose. It was noticed that mainly national comparisons were made, national efforts were communicated, and only a sporadic international appraisal was brought forward. As indicated above, although the discussions did not bring out really new aspects, they gave a picture of how modern techniques were applied in countries with high incidence, medium incidence and low incidence. They likewise provided a good indication of the level of control in different countries.

" Great interest was shown in the discussions. The tuberculosis group had about 60 participants and it was deemed necessary to split into two groups, each dealing with the same agenda, later these groups reunited. There were from 21 to 28 participants in the syphilis discussions and from 24 to 36 in the typhoid group. Members of the non-governmental organizations present took an active part in the discussions on tuberculosis and syphilis. As is understandable, they were not represented in the typhoid group.

" In summarizing the experience of the technical discussions this year, I wish to say that they have given satisfaction to the participants and that these exchanges of opinion between public health administrators on how to apply modern health techniques in their respective countries have proved to be useful. This year's discussions demonstrated that well-defined subjects are essential and lend themselves very well to this type of discussion. Documentation submitted by governments has been well prepared and proved valuable for the discussions. Documents relating to the technical discussions should officially represent the views of the relevant health administrations and should be distributed in advance to the participating delegations at least one month before they leave for the Assembly.

The rapporteurs of the three study groups presented to the Assembly brief resumé of the work of their respective groups, calling attention to the most important points in the discussions and to the conclusions reached by the participants.

There follow the reports on the technical discussions prepared during the Assembly and approved in outline by the study groups.

Health Techniques for Ascertaining the Problem

There was considerable discussion on the question of the methods to be adopted for obtaining epidemiological information. The need for standardized methods of examination and classification of the information thus obtained was pointed out.

There are three types of methods of examination which can be utilized (a) tuberculin testing (b) search for presence of tubercle bacilli (c) x ray examination.

In each of these methods techniques should be standardized as far as possible. Thus in tuberculin testing the same material and criteria of reading should be used. In x ray examination the same method of reading and recording films etc.

It was generally agreed that in certain countries tuberculin testing was useful for obtaining an estimate of the incidence of tuberculosis infection and a general idea of the prevalence of the disease. For establishing reliable figures of tuberculosis morbidity the demonstration of tubercle bacilli should be primarily depended upon. Surveys by mass x ray alone will give little and sometimes even misleading information especially in areas with high prevalence of pulmonary disease showing radiological findings similar to those of tuberculosis.

Random representative surveys will no doubt give the necessary information for planning a tuberculosis control programme in most countries. Attention was called to the danger of drawing general conclusions from the results of examination of selected groups.

A warning was given against relying only upon epidemiological data obtained from surveys — not only prevalence but also incidence should be ascertained if possible through the routine work of chest clinics.

Health Techniques for Preventing Spread of Infection

Under the sub heading of special techniques the following aspects were considered.

Case finding

Opinions were expressed on the administrative problems raised by mass x ray case finding programmes in countries where there is a lack of personnel and of laboratory and other facilities and a shortage of beds.

In general the group agreed with the view expressed by the Expert Committee on Tuberculosis at its fourth session when it stated

mass radiography should not be employed where there are few or no facilities such as laboratory and dispensary services for the exact diagnosis and supervision of

REPORT OF THE STUDY-GROUP ON TUBERCULOSIS

Introduction

The study group held four sessions between 7 and 9 May 1953. The number of delegates varied from 40 to 60 many of whom actively participated. Observers from three non governmental health organizations were also present. Eighteen governments had transmitted documents on tuberculosis control in preparation for the technical discussions (see page 202).

The nominations made at the third plenary session of the Assembly were unanimously approved, and the group elected Sir John Charles (United Kingdom) as Chairman and Dr C. L. Gonzalez (Venezuela) as Rapporteur. Owing to the rather large number of participants the Chairman suggested that the group should be divided and that Dr G. D. W. Cameron (Canada) and Dr R. Viswanathan (India) should act as Chairman and Rapporteur respectively of the second group. The two groups agreed to follow the same agenda and the same times of discussion, but in fact, the two groups were separated for the first meeting only.

A summary of the views expressed during the discussions follows.

General Considerations

Definition

From the point of view of the health administrator tuberculosis must be considered an infectious disease caused by a specific agent and the control programme should be planned on that basis.

Aids to definition

For the administrator the essential factor in defining a case is the demonstration of tubercle bacilli. The diagnostic procedure may be very refined or not depending on the facilities available in a given area.

Relative importance of pulmonary and non pulmonary tuberculosis

The group considered that from the public health point of view non pulmonary tuberculosis was relatively less important than pulmonary tuberculosis. Therefore the methods of controlling the disease should be based on the epidemiological characteristics of its pulmonary form.

Sources of infection

The extra human sources of infection were considered to be of relatively minor importance. With one or two exceptions it was agreed that the importance of bovine tuberculosis varied in different countries and was inconsiderable.

Attention was drawn to the rather important role general hospitals should play in the isolation and treatment of tuberculous patients. In some countries arrangements have been made to assign a certain percentage of beds in general hospitals to such patients.

It was emphasized that it was not necessary to establish elaborate institutions and that preference should be given to inexpensive hospital buildings.

It was also stressed that in tropical and subtropical countries isolation during the night was particularly important.

Handling and disposal of infectious material

It was emphasized that as sputum is the main source of infection it should be properly disposed of as quickly as possible. The first task of the health visitor or nurse should therefore be to teach the proper handling and disposal of infectious material. This teaching gives much better results when given in the patient's home than when given in the dispensary.

The power of sunlight to destroy tubercle bacilli was stressed and it was suggested that this might be used in tropical regions as a means of rendering sputum non infectious.

This aspect of tuberculosis prophylaxis should be considered part of an educational programme.

Measures for protecting children

It was generally agreed that BCG vaccination is probably the best method of protecting children particularly the new born from tuberculosis. In countries financially well placed however the question of isolating new born children from tuberculous parents either in special institutions or by handing them over to foster mothers may be considered.

Vaccination against Tuberculosis

The group was in agreement with the recommendations of the WHO Expert Committee on Tuberculosis in regard to the scope, extent and applicability of BCG vaccination. In population groups with high tuberculous infection and mortality BCG vaccination on a mass scale will be beneficial. Even in countries with low mortality rates vaccination can be used for protecting individuals and groups who are exposed to tuberculosis.

Some proposals were made as to how BCG programmes could best be integrated into general public health activities.

The different methods of BCG vaccination and the keeping properties of fresh and of freeze dried vaccine were discussed. The group was informed that these problems being of great technical importance would be discussed at the next meeting of the Expert Committee on Tuberculosis to be held at the end of 1953.

patients. In other words, it is of little value simply to take thousands of x ray films of the lungs of people and then to do nothing more about the matter.¹

It was pointed out that mass radiography is not always an inexpensive procedure. Attention was called to the possible danger of mistaken diagnosis based on x ray alone, with the further risk of unnecessary treatment.

Some participants called the attention of the group to the importance in case finding programmes of private physicians as a supplement to the work of chest clinics.

Role of the antituberculosis dispensary

The Chairman made some comments on the evolution of the dispensaries since the days of Sir Robert Philip in Edinburgh. He recalled that such services moved from isolated into integrated public health programmes, and he suggested that the name should be changed from "anti-tuberculosis dispensary" to that of "chest clinic", in view of the fact that they were dealing more and more with cases of chest disease and not just with cases of tuberculosis. Other participants were of the opinion that the name should be changed for psychological reasons to avoid the use of the word "tuberculosis".

The function of the chest clinic was discussed and it was stated that even though the function may vary from place to place, in general it should comprise the following:

- (a) detection of cases as early as possible
- (b) examination and follow up of contacts
- (c) supervision of isolation at home
- (d) supervision and after care of patients
- (e) ambulatory treatment where necessary
- (f) education of the public especially in regard to the prevention of tuberculosis

One of the participants emphasized the need for mobile dispensaries in order to be able to go to the people instead of waiting for them to come to the clinics.

Isolation of infectious cases

There was, of course, general agreement that institutional isolation of infectious cases was the most effective type of isolation both from the point of view of the individual patient (treatment) and of the community (prevention). But the provision of the requisite number of institutional beds for tuberculosis patients meets with two main difficulties: the high cost of construction and maintenance of such institutions and the lack of trained personnel. It is therefore necessary in many countries to rely mainly on home isolation.

the entrance of open cases some others prohibit the entrance of people with any pulmonary shadow. This difference in regulations suggests the desirability of some agreement on "what is a case of tuberculosis" for the purpose of restricting entrance to any country.

Curative Measures

Different views were expressed about the relative importance of different curative measures in the field of tuberculosis control. It was generally held that indiscriminate use of the newer drugs for the treatment of tuberculosis should not be allowed. Suitable regulations could be adopted for this purpose. The group felt that as the evaluation of different therapeutic measures requires expert knowledge the matter could be more appropriately considered by a committee of experts.

Rehabilitation and the prevention of relapse

The group felt that the prevention of relapse was associated to a certain extent with suitable rehabilitation of patients during their convalescence. After-care colonies established preferably in association with tuberculosis hospitals and sanatoria are one of the best means for rehabilitation of ex-tuberculous patients.

Closely related to rehabilitation is the question of resettlement. The ex-patients should be provided with suitable employment in order that they may be able to earn their livelihood. Some sort of insurance scheme can be adopted in most countries for the purpose of making financial provision to the family during the period of illness of the patient and to the patient himself if need be in case of unemployment.

Summary

The public health administrator should consider tuberculosis first of all as an infectious disease not merely a social disease influenced by the general standard of living.

As human cases of tuberculosis are the main source of infection and as in man the extra pulmonary forms play a minor role emphasis should be placed on finding the pulmonary form of tuberculosis.

Since the infectious cases are of primary interest in the tuberculosis control programme the labelling of cases should be based on demonstration of tubercle bacilli and not merely on interpretation of a chest x ray.

The need for reliable epidemiological data for planning and evaluating a programme is emphasized.

The tuberculosis dispensary or better termed the "chest clinic" should be the centre for all aspects of tuberculosis control.

General Measures and Procedures

Health education

It was realized that certain erroneous ideas about tuberculosis are still prevalent even among otherwise well informed and educated groups of people in almost all countries of the world and that education of the public concerning the disease was therefore essential for the success of any tuberculosis control programme. The group was of the opinion that all available means should be utilized for this purpose, and that an effort should be made to reach all age groups. The role of the public health nurse in this work was particularly stressed. It was also felt that in those countries where the control programme had just been initiated health education with regard to tuberculosis should be undertaken separately in order to give it adequate emphasis. On the other hand in countries where the programme was well under way health education concerning tuberculosis should form part of general public health education programmes. The group also took note of the suggestion that health education should be intimately associated with every stage of the tuberculosis control programme.

Role of voluntary agencies

Representatives of the International Union against Tuberculosis and the League of Red Cross Societies gave accounts of the work and aims of these agencies. The general feeling was that the voluntary agencies in some countries are a great help in initiating programmes and in tackling such subjects as health education and social assistance. These organizations should be considered as ancillary to not as substitutes for government action.

Legal measures

The point most emphasized in this connexion was that legislative measures cannot achieve the desired results without proper educational preparation of the people concerned. Compulsory hospitalization of tuberculous patients was discussed and the general view of the group was that legislation in the field of tuberculosis control will not play an important role. In most of the countries where laws for compulsory hospitalization and notification exist their enforcement has been found to be difficult. The group was of the opinion that better results could be achieved by intensive health education rather than through legislation. However certain laws no doubt should exist in order to deal with inconvenient and difficult situations.

With reference to the question of migrants the legislation in the different countries varies a great deal. Some countries have regulations to avoid

REPORT OF THE STUDY GROUP ON SYPHILIS

Introduction

The study group held four sessions between 7 and 9 May 1953. There were from 21 to 28 participants from 21 countries. Observers from three non governmental health organizations were also present. Fifteen governments had transmitted documents on syphilis control in preparation for the technical discussions (see page 210).

The nominations made at the third plenary session of the Assembly were unanimously approved and the group elected Dr E J Aujaleu (France) as Chairman and Professor M. A. Maleki (Iran) as Rapporteur. It was further decided that Professor Maleki would head a drafting committee which would also comprise Dr M. Totté (Sweden) and Dr T. F. Whayne (USA).

General Outlook

The natural history of syphilis is influenced by social economic psychological educational and other environmental factors. Syphilis reduces work efficiency in the most productive age groups of life and in its late stages limits employability for work as a result of chronic disability.

While a rapid decline in the incidence of early syphilis has been observed in several countries since the last war, extensive reservoirs of the infection remain in many regions where diagnostic and treatment facilities are limited. For example, its prevalence has been reported to vary from 14.1% to 32.9% in certain areas of Africa¹ from 24.3% to 54% in certain localities in South East Asia² and from 12% to 15% in certain parts of the Americas³. Until recently its prevalence in one large area of southern Europe exceeded 10%⁴.

The study group considers that the advent of penicillin as a non toxic inexpensive effective therapeutic agent in the control of syphilis represents one of the most significant public health developments over the last decades. While many health techniques previously used in syphilis control remain as important as ever, the introduction of penicillin has necessitated a realignment in approach. Practical advantages have resulted from the standpoints of prevention and cure, but for the public health administrator the consequences are that more emphasis may now be placed on other major phases of the venereal disease-control programme.

1. Wilco, R. R. (1949) Report on the study group on syphilis in Southern Rhodesia. Secretory for Health, October 1949.
 2. Chitt, J. C. et al. (1952) *Bull. World Health Org.* 5: 377.
 3. Pelt, R. S. (1951) *Bull. Off. Int. Epide.* 31: 132.
 4. Gris, E. I. (1952) *Bull. World Health Org.* 7: 1.

Emphasis should be placed on prevention, but this should wherever possible be combined with some sort of treatment. Mass BCG vaccination is considered a useful tool especially in countries with high prevalence of tuberculosis. Isolation of infectious cases especially at night is of greatest importance and such isolation can be obtained not only in institutions but also by other means, in or near the patient's home.

Every tuberculosis-control programme should be intimately connected with an educational programme which—like the rest of the tuberculosis programme—should be integrated at the earliest possible stage into the general public health programme of the country.

Documentation Submitted by Governments for Technical Discussions on Tuberculosis *

<i>No. 46/Technical Discussions/ Tuberculosis</i>	<i>Title</i>	<i>Government</i>
1	Tuberculosis in India—a programme for its control	India
2	Principles governing measures for the prevention of tuberculosis	Grand Duchy of Luxembourg
3	Objectives, methods and techniques in control of tuberculosis in the Netherlands	Netherlands
4	Tuberculosis: statement of principles	Iceland
5	Tuberculosis: résumé	Japan
6	Tuberculosis control in the French overseas territories	France
7	Tuberculosis campaign in Sweden	Sweden
8	Preventive and curative aspects of tuberculosis in Egypt	Egypt
9	Method of application of the various health techniques for the control of tuberculosis in Switzerland	Switzerland
10	Control of tuberculosis	USA
11	Objectives, methods and techniques in the control of tuberculosis in Ceylon	Ceylon
12	Principles of tuberculosis control in Morocco	French Residency Morocco
13	Tuberculosis control in Lebanon	Lebanon
14	Tuberculosis and its control in Viet Nam	Viet Nam
15	Facts and principles regarding tuberculosis control in Finland	Finland
16	Tuberculosis control in Uruguay	Uruguay
17	Summary of the report for 1952 by the Tuberculosis Control Department	Costa Rica
18	Tuberculosis control in the People's Republic of Yugoslavia	Yugoslavia

G in oil with 2% aluminium monostearate) There is generally an inverse relationship between the duration of effective penicillinemia and the resulting relapse rates in early syphilis The duration of the treponemicidal blood level of penicillin required to assure a satisfactory cure rate depends on the quality of the PAM preparations administered The study group therefore wishes to emphasize the need for and importance of such minimum international requirements for the quality of PAM preparations as have been established by WHO ⁵

With the advent of PAM a safe inexpensive therapy of short duration has been established which permits rapid suppression of infectiousness in venereal and non venereal syphilis It is now possible to organize effective mass treatment campaigns with the aid of mobile teams in areas of high prevalence of the disease where stationary clinic facilities are limited Adequate treatment of cases and contacts can now be achieved within a short period of time and large initial "epidemiological" doses of PAM lead to rapid elimination of the reservoir of infection in a way not possible with previous metal chemotherapy In certain extensive areas of high prevalence of syphilis the average number of injections was only 1.8 of arsenic and 3.6 of bismuth per patient per year which in addition to being ineffective was also sometimes dangerous This illustrates the difficulties of case holding and the limited value of such treatment in the long term programme With PAM adequate dosages can safely be given within one or a few days and maximum results for minimum expenditure can be obtained

In areas of moderate and low prevalence of syphilis ambulant treatment with penicillin of patients in clinics and by private physicians has already led to a certain degree of reorientation in the approach to venereal disease control The simplification of treatment may in some areas permit the gradual freeing of some medical personnel hospital beds and specialized clinics for other general or selected public health activities

It is possible that the future will bring even further simplification in the treatment of syphilis than is possible with PAM Initial trials with certain amine penicillin salts have given blood levels of even longer duration than are obtained with PAM and there is the possibility that smaller doses of the antibiotic may be required Such a development is obviously predicated on the continued absence of important penicillin resistance in the treponemes and on the scarcity of harmful side effects in the patient

In summarizing the study group notes that while the introduction of long acting penicillin preparations has made possible more effective and economical results in so far as the immediate aspects of syphilis control are concerned from the viewpoint of the health administrator several new problems of wider significance have arisen with regard to case finding follow up post treatment control and education of the public

Definition of Syphilis as a Public-Health Problem

There are two distinct public-health aspects to the control of syphilis that of the disease as an acute communicable infection, in its early stages and that of the late, chronic, invioling manifestations, including cardiovascular and neurological involvement. In the approach to syphilis control, consideration must be given to the existence of sporadic venereal syphilis on the one hand, and to the endemic non venereally transmitted disease observed in certain parts of the world, on the other hand, as well as to the particular problems arising in connexion with syphilis in infants and pregnant women. Syphilis is often more prevalent in port areas than inland, pointing to special international as well as national aspects of the venereal disease control problem among seafarers.

Determination of the Extent of the Problem

The number of cases of early syphilis reported from official dispensaries and hospitals is considered by the group to give incomplete information regarding the actual incidence of the disease in any area. In some countries where private physicians are also required to report cases, reliable data on annual incidence can sometimes be obtained. In other countries additional indices such as the incidence of congenital syphilis or the percentage of seropositivity in pregnant women and in various other special groups (armed forces, industrial workers, health insurance beneficiaries, etc.) may contribute to knowledge concerning the extent of the syphilis problem. In areas with a low prevalence epidemiological and serological surveys among segments of the population most likely to exposure to syphilis will be of value. Information relating to late manifestations and mortality—as far as such data can be obtained—would elucidate the second aspect of this disease problem. The opinions within the study group vary to some extent in regard to the actual value of numerical notification by physicians of early cases of syphilis. It is agreed however that the usefulness, reliability, and applicability of the aforementioned indices will vary depending on whether the area is one of high, medium, or low prevalence of the disease.

Treatment

Representative worldwide surveys carried out by WHO among major university clinics, venereal disease clinics, and venercologists have shown that the medical profession has gradually accepted penicillin in place of the toxic arsenicals for the treatment of syphilis. The treatment of choice is long acting penicillin preparations, particularly PAM (procaine penicillin).

at risk such as the armed forces seafarers displaced persons etc. and (b) professional groups which lend themselves to serological examination as part of the general health examinations performed such as agricultural and industrial workers (pre employment examinations) students hospital patients etc. With regard to premarital and prenatal blood testing it is in the view of some participants in the discussion doubtful if in low prevalence areas such systematic testing is warranted in view of the relatively high cost per case when multiple tests are performed. It is the opinion of some of the discussion participants however that it is desirable to include systematic serological examination of pregnant women in the general health examinations required during pregnancy.

Special attention should be paid to population groups of international importance particularly armed forces on foreign soil refugees migrant labourers and seafarers periodic clinical and serological examinations being carried out as part of the general medical examinations which these groups undergo. Measures for finding the contacts of infected cases abroad should be encouraged and it is suggested that this question should receive the attention of WHO in the projected revision of the Brussels Agreement of 1924 relating to the treatment of seafarers in major ports.

Preventive Measures

Individual and personal hygienic measures may give a certain degree of protection against venereal infection on exposure. The advent of penicillin with its preventive as well as curative effects has led to the practice of pre or post exposure peroral medication with relatively small doses of the antibiotic. Such a practice cannot in general be recommended since in the long run it may give rise to penicillin sensitivity and resistance in various bacteria and cocci. It is to be noted however that in one country this procedure has been applied under close supervision to special maritime population groups visiting foreign ports and that the results in preventing gonorrhea if not syphilis have been good. The effectiveness of preventive treatment in syphilis by injections of PAM during the incubation period in venereal and non venereal contacts without overt signs of the disease was also recognized.

Activities and efforts which broaden understanding and tend to develop social responsibility are of a general preventive nature in the long term programme. In areas of low prevalence of the disease further progress can be achieved only by increasing the emphasis on health education of the public by developing a sense of social responsibility in children and adolescents during the formative years through schools youth movements etc. by creating an informed opinion among government officials and gaining their support by fostering co operation between physicians and health

Case-finding

Case finding in the community remains a primary element in general or selective public health programmes directed against syphilis, and the study group draws attention to this aspect of the problem from the point of view of comparative value of available techniques in areas of high, medium, and low prevalence of the infection.

Mass examinations are particularly applicable in areas with a high prevalence of infectiousness where there are many opportunities for transmission of syphilis and a broad segment of the population is at risk. While awaiting the development of adequate health facilities, including laboratory services, in such areas the best approach to syphilis control is a rapid attempt to suppress infectiousness by mass examination and mass treatment by mobile teams aiming at the gradual establishment of suitable health centres and the strengthening of rural health services. Under the conditions mentioned above, mass examinations are economical and advantageous in the long term programme as, with the advent of penicillin adequate treatment can be given to cases and contacts at the same time.

In mass surveys serological as well as clinical examinations are preferable, but the former can often not be performed because of lack of stationary or mobile laboratory facilities. In some areas also a high proportion of non specific reactions resulting from other diseases will limit the usefulness of most of the serological techniques which are presently available and which can be applied on a mass basis. Clinical surveys may suffice, provided limited sample areas are established where serological control studies on the response of the population to treatment is studied in detail with quantitative serological techniques and provided family and other contacts with or without overt signs of disease are brought to treatment simultaneously with the infectious cases. The epidemiological value of a liberal definition of contacts has been proved in practice in various areas with a high prevalence of venereal or non venereal syphilis.

With decreasing syphilis prevalence, public health indications for the use of mass case finding techniques in the population at large become more limited and the number of cases found on the basis of such systematic clinical and serological examinations in low prevalence areas may not justify the expenditure of funds for this purpose. In areas such as these case finding methods aiming at the examination of individual cases and their contacts—who are brought to the attention of private physicians, medical officers of health, public health nurses, social workers and sometimes lay investigators trained for this purpose—are more rational, less costly, and more effective in the long run.

In urban and rural areas with medium or low prevalence it is also logical to focus case finding efforts on (a) population groups particularly

2 Adequate treatment of cases and contacts can now be achieved within a short period of time. In low prevalence areas certain medical and auxiliary personnel and some facilities (hospital beds and specialized clinics) and funds may thus be gradually freed in the long term programme against syphilis for use in other health activities. While the introduction of PAM therapy in syphilis permits more effective and economical results with regard to the immediate concerns of the programme than was possible with metal chemotherapy several new problems of a wider concern have arisen as a result of this development.

3 In low prevalence areas the foreshortening and simplification of treatment has rendered case finding and the follow up of patients for post treatment control more complicated. More patients with syphilis will be treated by private physicians rather than by clinics and outpatient departments making consideration by medico social services more difficult. Numerical and other notifications—wherever required—may tend to become more incomplete with the result that epidemiological contact work will become less easy and consequently less effective. Voluntary and/or official medico social agencies may therefore require strengthening to foster further co operation among physicians, public health nurses, social workers, etc. Laboratory and other specialized diagnostic services at the disposal of physicians may also require reinforcement. Furthermore in an effort to stimulate case finding serological examinations for syphilis might be carried out on an increasing scale as part of general health examinations in professional and other population groups wherever such examinations are desirable (pre employment examinations in industry, examinations of pregnant women, etc.).

4 In the long term programme health education and an effort to increase understanding and social responsibility will facilitate early diagnosis and treatment of venereal disease in any area. An approach through voluntary organizations may be successful in some areas while coercive measures may also be required in others. Health and general education will tend to diminish the need for extensive legislative measures in the syphilis control programme and will contribute to the fuller acceptance by the public of this infection as a communicable disease like any other. Information from various parts of the world shows that licensed professional prostitution is not a highly important factor in the spread of venereal infections.

5 Syphilis remains a disease of considerable international importance because of the increasing amount of international travel and the special problems posed by seafarers, immigrant labourers, military groups on foreign soil, etc. International co operation in syphilis control should therefore be stimulated further since it has also an economic objective which health administrations might support. Some of the problems

officials, and civilian and military authorities, and by obtaining the collaboration of voluntary organizations interested in health promotion. Full employment and recreational and welfare measures for particular groups serve the same general purpose. There is also the question of the limitation of excessive consumption of alcohol which is sometimes a contributory factor in the spread of venereal diseases. Organized professional prostitution is not considered to be highly significant in the propagation of venereal infections.

With regard to the various legislative measures which are sometimes applied in the control programme—such as obligatory premarital and prenatal blood testing, notification of cases, compulsory treatment etc., some of which have already been referred to in this report—it is felt that while coercive measures may be applicable in some areas—and particularly in certain population groups at risk—proper health education of the public leading to a fuller acceptance of syphilis as a communicable disease like any other may de-emphasize the need for such legislation. The more informed the public becomes the less will be the need for coercive measures.

Summary

The study group on syphilis was in agreement that the following points should be emphasized:

1. Treatment remains a basic element in general or selective public health programmes against the treponematoses and the advent of penicillin has revolutionized the outlook. The replacement of the toxic arsenicals by this antibiotic has resulted in a general reorientation in preventive, curative and other techniques in combating venereal syphilis in adults, non-venereal syphilis among the people of endemic areas, and congenital infections (through the treatment of pregnant women). Long-acting penicillin preparations—PAM¹—have gradually been accepted by the medical profession throughout the world as the treatment of choice in early syphilis which is the problem of immediate concern to health administrations. This inexpensive, effective and rapidly acting therapy offers a realistic opportunity for ambulant use in mass programmes in areas of high prevalence of syphilis and/or other treponematoses where facilities are limited, and in areas of moderate or low prevalence where public health action is to a greater extent based on stationary facilities. The application of large, initial epidemiological doses of PAM permits rapid elimination of the reservoir of infection in a way not possible with previous techniques which were less easy to apply, sometimes ineffective and often dangerous.

¹ These preparations should meet the minimum requirements of WHO specifications (International Pharmacopoeia, volume II).

REPORT OF THE STUDY GROUP ON TYPHOID

Introduction

The study group on the typhoid group of fevers held five meetings between 7 and 9 May 1953 which were attended on the average by 24.36 participants. A document prepared by the Secretariat and ten papers presented by as many governments were distributed (see page 216). Following the recommendations of the Assembly the group elected Dr C. G. Pandit (India) as Chairman and Dr G. D. Hemmes (Netherlands) as Rapporteur.

The group followed as closely as possible the agenda prepared by the Secretariat although it was recognized that owing to the nature of the subject some overlapping was unavoidable. Though the clinical picture of typhoid can be produced by many strains of the genus *Salmonella* the group decided to limit the discussions to the control of those salmonellosis in which man is the sole or most important source of infection, i.e. typhoid fever and paratyphoid A and B.

Notification

In discussing the techniques for obtaining a true picture of the occurrence of the typhoid group of fevers the group found that compulsory notification is a legal requirement in most countries. The importance of a good notification system in the control of the disease was emphasized and the various degrees of co-operation in reporting by the medical profession in the different countries was noted. It was suggested that in areas where there are not enough doctors to cover the population use could be made of auxiliary personnel or of voluntary organizations to obtain the information needed.

Laboratories

The group was strongly of the opinion that laboratory facilities should be provided free of charge to physicians in order to make an exact diagnosis of the disease and to epidemiologists to make possible the detection of the source of infection. In many countries the laboratory sends copies of reports of the examination of suspected material to the health service thus providing the health service with a supplementary source of information. To serve the needs of rural areas a mobile laboratory which can be instituted without much financial outlay may be highly useful particularly during an epidemic.

The need for developing special techniques for sending specimens from distant places to laboratories (e.g. the method developed by Lie Kian Joe for sending stool specimens—drying stools on a filter paper) was stressed.

particularly those with regard to seafarers might be considered in the projected revision by WHO of the Brussels Agreement of 1924

6 The long term outlook in syphilis control, despite the introduction of penicillin treatment, does not justify any relaxation of vigilance or abandonment of special efforts against this infection through general or selective health programmes. On the contrary, penicillin treatment offers an opportunity to the health administrator for a practical and more rational, economic and administrative approach to certain phases of mass campaigns against treponemal diseases in areas of high prevalence, in areas of moderate or low prevalence, it permits increased emphasis on other major elements of the control programme (e.g., case finding, post treatment control, etc.)

Documentation Submitted by Governments for Technical Discussions on Syphilis *

No	Ad/Technical Discussions/ Syphilis	Title	Government
1		A note on syphilis in India with reference to suitable practical measures for its control	India
2		Syphilis (two reports)	Residency General of France in Tunis
3		Syphilis control in the Netherlands	Netherlands
4		Scheme for the prophylaxis of the treponematoses and particularly of syphilis in the French overseas territories	France
5		Measures for combating syphilis in Sweden	Sweden
6		Study of health techniques in venereal disease control	France
7		The control of venereal disease in the United States	USA
8		Objectives, methods and techniques in the control of syphilis in Ceylon	Ceylon
9		The prevention and treatment of syphilis in Lebanon—1953	Lebanon
10		The control of syphilis	Viet Nam
11		Syphilis control in Uruguay	Uruguay
12		Venereal disease control in Oslo	Norway
13		Organization of the venereal disease control department	Costa Rica
14		Syphilis control in Italy	Italy
(unnumbered)		Note on cases reported to the public health service and case rates for venereal disease	Japan

* These reports are available in mimeographed form

REPORT OF THE STUDY GROUP ON TYPHOID

Introduction

The study group on the typhoid group of fevers held five meetings between 7 and 9 May 1953 which were attended on the average by 24-36 participants. A document prepared by the Secretariat and ten papers presented by as many governments were distributed (see page 216). Following the recommendations of the Assembly the group elected Dr C. G. Pandit (India) as Chairman and Dr G. D. Hemmes (Netherlands) as Rapporteur.

The group followed as closely as possible the agenda prepared by the Secretariat although it was recognized that owing to the nature of the subject some overlapping was unavoidable. Though the clinical picture of typhoid can be produced by many strains of the genus *Salmonella* the group decided to limit the discussions to the control of those salmonellosis in which man is the sole or most important source of infection i.e. typhoid fever and paratyphoid A and B.

Notification

In discussing the techniques for obtaining a true picture of the occurrence of the typhoid group of fevers the group found that compulsory notification is a legal requirement in most countries. The importance of a good notification system in the control of the disease was emphasized and the various degrees of co-operation in reporting by the medical profession in the different countries was noted. It was suggested that in areas where there are not enough doctors to cover the population use could be made of auxiliary personnel or of voluntary organizations to obtain the information needed.

Laboratories

The group was strongly of the opinion that laboratory facilities should be provided free of charge to physicians in order to make an exact diagnosis of the disease and to epidemiologists to make possible the detection of the source of infection. In many countries the laboratory sends copies of reports of the examination of suspected material to the health service thus providing the health service with a supplementary source of information. To serve the needs of rural areas a mobile laboratory which can be instituted without much financial outlay may be highly useful particularly during an epidemic.

The need for developing special techniques for sending specimens from distant places to laboratories (e.g. the method developed by Lie Kian Joe for sending stool specimens—drying stools on a filter paper) was stressed.

The importance of V₁ phage typing of typhoid and paratyphoid B strains was discussed and the establishment of a central typing laboratory for each country was considered essential. An international laboratory, such as the International Enteric Reference Laboratory and Bureau, London, functioning under the International Association of Microbiologists, is also essential for co-ordination of the work of the national typing laboratories. The group considered that this should be brought to the attention of the Director General.

The Place of Treatment in Prevention

In discussing the question of treatment of typhoid fever, the advantages and disadvantages of the use of chloramphenicol were discussed. It was recognized that with this treatment the case fatality rate had decreased, that the patient's general condition was well maintained during illness, and that the period of pyrexia, as well as of convalescence, was shortened. However, when this treatment is given before the diagnosis of typhoid fever is made, it may leave many patients as carriers, as the development of the carrier state is not prevented by antibiotics. It was also pointed out that, owing to the low degree of immunity which the patient develops when chloramphenicol is given in the early stages of the disease, this therapeutic measure should be combined with immunization procedures. The group considered it highly desirable that the implications of the treatment of typhoid fever with chloramphenicol should be studied in all its aspects.

The beneficial results with the use of antityphoid serum were mentioned by one of the participants.

Nursing

All participants were agreed that hospitalization of typhoid patients was a necessity and that legal provisions should exist to authorize the health authorities to hospitalize typhoid patients if circumstances so require. In areas where hospital facilities are insufficient, local authorities should do what they can, wherever possible, to improve home treatment and isolation, preferably through adequate nursing care. It was emphasized that even in countries with sufficient hospital accommodation, the number of patients who would be cared for at home was likely to increase, since treatment with chloramphenicol had shortened the duration of the disease.

Environmental Sanitation

Environmental sanitary measures which will prevent faecal contamination of water and food are essential for preventing the spread of typhoid fever and other intestinal infections. It was recognized that the water carriage system of sewage disposal, the most satisfactory measure of sewage

disposal would not be available in many areas. In such cases other fairly economical sanitary measures such as bore hole latrines and fly proof privies which give good results provided that they are periodically supervised should be instituted. Their provision should be stimulated by the health authority through supplying technical help to the population. In this connexion the attention of the group was drawn to a type of latrine suggested by Lal which has proved useful in one of the areas near Calcutta.

The group recognized that construction of public water supply systems should be encouraged but as this is not possible at present in many communities properly constructed wells should be used instead.

Chlorination of well water is not always a popular measure. It was pointed out that a more easily applicable method of disinfection of water is needed and the group requested that the attention of the Expert Committee on Environmental Sanitation be drawn to this subject.

The great importance of milk pasteurization was stressed. It was further emphasized that the health authority should always be consulted in the formulation of plans for buildings for processing foods and beverages and for the construction of slaughterhouses etc. and that periodic adequate hygienic supervision of such establishments to maintain a satisfactory standard of cleanness in them and to prevent infections of human origin was highly desirable.

Carriers

It was pointed out that chronic carriers are identified mainly either by repeated examinations of patients after recovery or by an epidemiological investigation aiming at tracking down the source of infection.

The favourable results of surgical treatment of carriers (cholecystectomy) in suitable cases as well as the failure to sterilize them by drugs or antibiotics were noted. The need for continuing research in this field was stressed. The participants agreed that the chronic carrier should receive adequate instructions as to how to prevent infection and wherever feasible should be put under surveillance. The group recommended strongly that the health authority should have legal powers to exclude carriers from food handling occupations. However in such circumstances the need for rehabilitating them in other suitable vocations should be realized.

It was recognized that there is a need for international co operation in cases when the source of infection can be traced outside the country. This international co operation might include notification to the health authority of another country regarding the impending journey of a carrier.

Vaccination

It was stressed that vaccination should never be considered as a substitute for hygienic measures.

It was generally accepted that vaccination is an effective measure to decrease temporarily the susceptibility of individuals or groups who are particularly at risk, such as members of the family of a patient or a carrier, those who are exposed occupationally, and others considered at risk on account of epidemiological indications. Even so the present techniques of multiple injections are likely to prove a serious drawback in adoption of this measure on any large scale. In this connexion the group noted that, thus far, encouraging results have been obtained in preliminary trials in one country with a single dose of alum precipitated vaccine.

The limitations of vaccination in a long term programme aiming at eradication of typhoid fever were underlined.

Health Education

It was recognized that health education is an essential feature in the programme of any health service and that it is particularly valuable in the control of many diseases, including the typhoid group of fevers. It should be kept in mind, however, that results are not always immediately evident and that tenacious perseverance is necessary.

During discussion it appeared that principles of health education were the same in different parts of the world, though the methods which were applied varied. It was stressed that the purpose should be twofold, namely, the education of the family, and that of the community as a whole. Systematic house visiting by specially trained nurses, midwives, social workers, health visitors, trained auxiliary personnel or volunteers was considered by many participants to be extremely valuable. Attention was also drawn to the use of a more direct educational approach beginning with the patient and his family. In this connexion the importance of health education among hospitalized patients was stressed. Health education should be an essential part of school education in all its stages. It should also form part of such activities as training classes in cooking and in child care, etc. for housewives. Special lectures for personnel employed in food industries, restaurants and allied trades were considered of the utmost importance. Health education of dairy farmers was considered most essential. The practice in many countries of grading dairies according to their sanitary conditions was noted.

The value of an informed public opinion as a means of putting pressure on public administrators in securing adequate funds for all health activities was emphasized.

The Role of Voluntary Agencies

It was realized that the role of voluntary agencies is limited in so far as typhoid fever is concerned as compared with diseases with social con-

sequences such as poliomyelitis or tuberculosis. However their role in health education was recognized.

Legal Aspects

It was agreed that legal provisions for isolating typhoid cases and for dealing with carriers were necessary and that each country should evolve its own methods for coping with this problem. To what extent these provisions should be utilized depends naturally on the conditions existing in each country. However a point was made by all speakers that legal powers were necessary to create the necessary psychological atmosphere for securing public co operation to fight the infection.

It was recognized also that the health authority should have the power to waive isolation if it is satisfied that there is no danger involved of spread of infection. A suggestion was made that in view of the financial difficulties which can be the consequence of legal measures there should be a provision in the budget of the health authority concerned to make some sort of allowance to the family when needed especially when the measures regard the wage earner.

Legal provisions to ensure sanitary requirements in the processing and handling of food and beverages including the inspection and supervision of establishments dealing with wholesale and retail trade of foodstuffs were considered essential.

It was pointed out in conclusion that the techniques described above are not in their entirety applicable in many areas of the world where the problem is very acute. The group agreed that in areas where the disease is highly endemic typhoid fever control continues to be basically an environmental sanitation problem and that in countries in different stages of development where this ultimate goal is not yet possible skilful use should be made of the above mentioned techniques judging the problem in each area on its own merits and taking due account of the facilities available.

Summary and Recommendations

The different techniques aiming at the control of the typhoid group of fevers were discussed their limitations were recognized and their applicability in countries in different stages of development was considered.

The main recommendations of the group were

- 1 The attention of the Director General should be drawn to the need for further international co operation in the field of Vi phage typing and to the possibility of giving support to an internationally recognized highly specialized reference laboratory.

- 2 The epidemiological implications of treatment with chloramphenicol should be kept in mind and continue to be studied.

3 The attention of the Expert Committee on Environmental Sanitation should be called to the need for an easily applicable method for the disinfection of well water

4 Typhoid carriers should be excluded by law from food handling occupations, but, at the same time their adequate rehabilitation should be ensured

5 There is a need for international co operation in cases where the source of infection can be traced outside the country

6 The paramount importance of health education should be recognized

7 There is a need for legal provisions with regard to the different aspects of typhoid fever control, but these should be used with due discretion

8 Typhoid fever control continues to be basically an environmental sanitation problem and in countries in different stages of development where this ultimate goal is not yet possible skilful use should be made of the different techniques available (including those for tracing the source of infection), judging the problem in each area on its own merits and taking due account of the facilities available

Documentation Submitted by Governments for Technical Discussions on the Typhoid Group of Fevers*

No	Ad/Technical Discussions/ Typhoid	Title	Government
1		Brief review of the preventive and curative methods employed in the control of the typhoid group of fevers with particular reference to India	India
2		Some remarks on the control of the typhoid group of fevers in the Netherlands present situation of the incidence of salmonellosis	Netherlands
3		Typhoid fever control	Ireland
4		Typhoid fever	Iceland
5		Control of the typhoid group of fevers	Sweden
6		The typhoid and paratyphoid group of fevers	France
7		Control of the typhoid group of fevers	USA
8		Objectives methods and techniques in the control of the typhoid group of fevers in Ceylon	Ceylon
9		Prevention and treatment of typhoid in Lebanon — 1953	Lebanon
10		Study of typhoid and paratyphoid infections in immunized persons	Viet Nam
Special paper		Hemmes G D Typhoid fever paratyphoid A and B a summary of the epidemiology and control techniques of these infections prepared for the technical discussions of the Sixth World Health Assembly	

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Mental Health Expert Committee on Report on the first session	9	2/3	\$0.30	Sw fr 1 20
Report on the second session	31	2/9	\$0.35	Sw fr 1 40
Alcoholism Subcommittee Report on the first session	42	1/3	\$0 15	Sw fr 0 60
Second report	48	2/-	\$0 25	Sw fr 1 -
Nursing Expert Committee on Report on the first session	24	1/6	\$0 20	Sw fr 0 80
Second report	49	1/3	\$0 15	Sw fr 0 60
Nursing Education Working Conference on Report	60	1/6	\$0 20	Sw fr 0 80

	Number		Price	
Nutrition Joint FAO/WHO Expert Committee on				
Report on the first session	16	1/3	\$0 15	Sw fr 0 60
Report on the second session	44	3/-	\$0 40	Sw fr 1 60
Occupational Health Joint ILO/WHO Committee on				
Second report	66	1/6	\$0 20	Sw fr 0 80
Physically Handicapped Child Joint Expert Committee on the (WHO United Nations ILO and UNESCO)				
First report	58	1/6	\$0 20	Sw fr 0 80
Plague Expert Committee on				
Report on the first session	11	1/6	\$0 20	Sw fr 0 80
Prematurity, Expert Group on				
Final report	27	9d	\$0 10	Sw fr 0 40
Professional and Technical Education of Medical and Auxiliary Personnel Expert Committee on				
Report on the first session	22	2/-	\$0 25	Sw fr 1 --
Second report	69	1/6	\$0 20	Sw fr 0 80
Public Health Administration Expert Committee on				
First report	55	2/3	\$0 30	Sw fr 1 20
Rabies Expert Committee on				
Report on the first session	28	1/6	\$0 20	Sw fr 0 80
Rickettsioses (African) Joint OIH/WHO Study Group on				
Report on the first session	23	1/3	\$0 15	Sw fr 0 60
School Health Services Expert Committee on				
Report on the first session	30	2/-	\$0 25	Sw fr 1 --
Trachoma Expert Committee on				
First report	59	1/3	\$0 15	Sw fr 0 60
Tuberculosis Expert Committee on				
Report on the fourth session	7	1/3	\$0 15	Sw fr 0 60
Report on the fifth session	32	9d	\$0 10	Sw fr 0 40
Veneral Disease Control in the USA				
Report of the WHO Syphilis Study Commission	15	3 6	\$0 45	Sw fr 1 80
Veneral Infections and Treponematoses Expert Committee on				
Report on the third session	13	1/6	\$0 20	Sw fr 0 80
Fourth report	63	4/3	\$0 55	Sw fr 2 20
Subcommittee on Serology and Laboratory Aspects				
Report on the first session	14	2/-	\$0 25	Sw fr 1 --
Report on the second session	33	1/6	\$0 20	Sw fr 0 80
Yellow Fever Panel				
Report on the first session	19	9d	\$0 10	Sw fr 0 40
Zoonoses Joint WHO/FAO Expert Group on				
Report on the first session	40	2/3	\$0 30	Sw fr 1 20



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

3-8 September	Regional Committee for the Western Pacific fourth session, Tokyo
7-10 September	Regional Committee for Europe third session Copenhagen
7-14 September	Expert Committee on Malaria fifth session Istanbul
14-19 September	Expert Committee on Rabies second session Rome
14-19 September	Expert Committee on Yellow Fever, second session Kampala
14-19 September	Expert Committee on Poliomyelitis first session Rome
15-19 September	Regional Committee for South East Asia sixth session Bangkok
21-26 September	Regional Committee for Africa third session Kampala
21-26 September	Expert Committee on Public Health Administration second session Geneva
5-10 October	Expert Committee on Alcohol Geneva
9-22 October	Regional Committee for the Americas fifth session Washington D C
12-17 October	First Conference of National Committees on Vital and Health Statistics London
19 October 7 November	Committee on International Quarantine first session Geneva
19-29 October	Joint FAO/WHO Third Regional Nutritional Meeting for Latin America Caracas
20 October 13 November	Joint FAO/UNICEF/WHO Group Training Course on the Control of Milk Quality and Processing Rome
26-31 October	Expert Committee on Biological Standardization seventh session Geneva

THE CONCEPT OF VETERINARY PUBLIC HEALTH AND ITS APPLICATION IN THE WORLD HEALTH ORGANIZATION*

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In all disciplines the emergence of new concepts is a sign of vitality and a basis for growth. The history of veterinary medicine is rich with scientific discoveries and innovations which have benefited mankind. The opportunity now presents itself to the veterinary profession to make another contribution to human society. This opportunity is embodied in a new concept—veterinary public health—which in its present form has existed for less than a decade. Since to some groups in the public health and veterinary professions this concept appears rather vague, it is the purpose of this account to place it in clearer perspective, principally by outlining how it has been and may be applied to specific problems.

CONCEPT OF VETERINARY PUBLIC HEALTH

The distinguishing characteristic of veterinary public health is its concern with any linkage between human and animal health problems. In its work it seeks to form a coherent and effective pattern of organization and activities out of the total knowledge and resources available from groups and individuals dealing with such linked problems.

Veterinary public health has been defined as comprising "all the community efforts influencing and influenced by the veterinary medical arts and sciences—applied to the prevention of disease, protection of life and promotion of the well being and efficiency of man."¹ This is a panoramic definition. In concrete terms the principal functions of public health veterinarians are:

(1) the provision of expert technical advice and the promotion of activities in the control and eradication of zoonoses;

(2) the development and supervision of food hygiene practices, with particular reference to diseases transmissible from animal to man, in

collaboration with epidemiologists, sanitary engineers, bacteriologists, and other specialized personnel ,

(3) the co ordination of work and resources of groups or agencies, private or official, dealing with coinciding interests of human and animal health

(4) the education and training of professional and auxiliary workers in veterinary aspects of public health

Zoonoses Control

The concise term 'zoonoses' has gained wide acceptance as denoting that group of animal diseases transmissible to human beings. A Joint WHO/FAO Expert Group on Zoonoses, convened in 1950 listed over 80 diseases naturally transmissible between animals and man². The relative importance of these diseases varies according to countries. Zoonoses of importance in large areas of the world include bovine tuberculosis, brucellosis, anthrax, rabies, leptospirosis, the arthropod borne virus encephalitis, Q fever, hydatidosis, salmonellosis, psittacosis, plague, and tularaemia. Other zoonoses, such as trichinosis, taeniasis, leishmaniasis, erysipelas (swine erysipelas), endemic typhus, and jungle yellow fever are troublesome but more localized in certain countries. Diseases such as vesicular stomatitis, foot and mouth disease, Newcastle disease and certain ancylostomoses (those causing 'creeping eruption' in man), although widespread in animals, cause only minor illnesses in man.

The prevention and elimination of zoonoses in human beings depend in large part on the control of these diseases in animals. The public health veterinarian assists in this task, as stated above, by providing expert technical advice on these diseases and by promoting activities for their control and eradication. Examples of this type of activity are given throughout this paper.

Food Hygiene

Food hygiene particularly in regard to milk and meat is another major aspect of veterinary public health. The primary purpose of good milk and meat hygiene is to prevent transmission of disease to man through food products, thus it is essentially a public health function. The secondary aims of food hygiene such as the decrease of food losses and prevention of disease transmission through food by products to other domestic animals are usually responsibilities of food and agricultural authorities. Therefore, the public health veterinarian because of his

training and his connexion with other authorities concerned is best suited to supervise the food hygiene practices affecting the transmission of animal borne diseases. Public health supervision in milk hygiene including the contributions of the veterinarian and other specialists should begin with the cow on the farm. supervision in meat hygiene should begin when the animal leaves the farm or enters the slaughterhouse and should terminate when the food product is ready for delivery to the potential consumer.

Co-ordination of Human and Animal Health Interests

The co ordinating function merits a separate listing firstly because of its great importance in many spheres of health activity including zoonoses control and food hygiene and secondly because the amalgamation of human and animal health interests is a primary concern of public health veterinarians whereas other groups pursue in the main only one aspect of the total problem.

Through co ordination of work in the human and animal health field a greater economy of effort may be achieved by avoidance of overlapping responsibility and in addition activity may be extended into important and untouched areas. Experience has shown that zoonoses problems for example by their very nature cannot be met adequately by the separate endeavours of health and agricultural authorities. Indeed veterinary public health first received recognition from its accomplishments in co ordinating the efforts of public health and agricultural groups and by utilizing their unexploited resources for a concerted attack on specific zoonoses. In this connexion public health veterinarians have influenced public health departments to give many forms of assistance to agricultural authorities in carrying out animal disease control programmes. This assistance has taken the form of financial subsidies in bovine tuberculosis and brucellosis control programmes of fostering research on these diseases of promoting epidemiological surveys on these and newly emerging problems such as Q fever and leptospirosis and of direct participation and propaganda assistance in the control of rabies and hydatidosis.

The importance of co ordination and its successful application by public health veterinarians is particularly notable in rabies control activities where previously very little has been achieved through the separate efforts of the various agencies concerned. In this field the public health veterinarian has brought about an integration of effort and resources of public health and veterinary diagnostic laboratories practising physicians and veterinarians lay and professional societies wildlife control authorities and law enforcement agencies and health and agricultural organizations.

The interests of human and animal health also coincide in the realm of biological science. Here the public health veterinarian can aid impor

tantly by creating lines of contact between technical groups and by promoting development of their common work. Thus, his knowledge and active participation are of much value in phases of microbiology, comparative pathology, nutrition therapeutics, oncology, surgery, and epidemiology, to name only a few of the many and varied disciplines involved.

Education and Training

Education and training of professional and auxiliary public health personnel constitute an integral and often major part of the public health veterinarian's activities. In all countries the diseases of man and his flocks, food hygiene and the other manifold relationships of human and animal health are important considerations in the proper training of a public health worker whether it be a physician, veterinarian, engineer, nurse, health educator or sanitary inspector. Advanced medical, veterinary, and public health schools have recognized the necessity of such training, and as more well trained public health veterinarians become available for teaching purposes the field of veterinary public health will undoubtedly find its place in the regular teaching schedules and training courses for public health workers.

* * *

There has been uncertainty in regard to the administrative placement of the public health veterinarian in government services. In the past, veterinarians occupied with public health functions have often been unsatisfactorily located in agricultural departments. Recently, from a clearer recognition of the functions of public health veterinarians and to increase their operative effectiveness many countries have established separate veterinary public health units within municipal, district, or national departments of health. The wide application of this measure indicates that it is meeting a real need. At present recognition of the importance of the veterinarian in the field of public health is signalled by the fact that he is increasingly accorded equal administrative rank with his medical colleague.

Thus an unusual opportunity is presented for the veterinary profession to expand its scope and to make an important social contribution by accepting and fulfilling the responsibilities of veterinary public health. Advanced training of veterinarians in public health³ is highly desirable in order to discharge adequately all the major functions of the public-health veterinarian discussed previously but it is not a prerequisite for taking his rightful place in the public health team of workers with respect to individual responsibilities the veterinarian can best assume.

WHO ACTIVITIES IN VETERINARY PUBLIC HEALTH

Soon after its establishment in 1948 WHO was requested by its member countries to take action in the field of veterinary public health in order to meet the needs of these countries on both national and international levels. In implementing these requests the Organization early associated its veterinary public health activities with the veterinary responsibilities of its sister agency in the United Nations the Food and Agriculture Organization (FAO) and with other international organizations such as the Office International des Epizooties (OIE) the International Veterinary and Microbiological Congresses and the Pan American Sanitary Bureau (WHO Regional Office for the Americas)

WHO fulfils its veterinary public health obligations in several ways, i.e. by (a) the provision of specialists to advise government agencies (b) the organization of regional meetings or conferences to consider and act upon questions of common concern to the countries involved (c) meetings of committees of recognized experts in a specific field to summarize the latest advances in that field and to recommend courses of action to guide WHO technical policy (d) co ordination and promotion of research activity (e) organization of technical training courses for field and laboratory workers (f) publication of documents on technical subjects and (g) granting fellowships to countries to enable recipients to study abroad

The highlights of the work in veterinary public health carried out by WHO are summarized below

Zoonoses

A joint WHO/FAO Expert Group on Zoonoses was convened in 1950 to consider certain problems in veterinary public health with special emphasis on bovine tuberculosis anthrax hydatidosis, Q fever and psittacosis⁴

Five zoonoses—bovine tuberculosis rabies Q fever brucellosis and leptospirosis—were considered at a seminar for 20 European countries sponsored by WHO and FAO in Vienna in November 1952. The proceedings of this seminar contain up to date information on field control and laboratory procedures in regard to these diseases⁵

In addition to their having been considered at meetings of expert groups and seminars several of the zoonoses have formed the major part of the operating programme of WHO. This work will be discussed briefly

Wild Health Organization Reports 1951 40

World Health Organization (1953) Report on the zoonoses bovine tuberculosis Q fever brucellosis and leptospirosis. Abstracts of the WHO/FAO Seminar Vienna, November 1952. Geneva, (World Health Organization) 1953 19

Rabies

A WHO Expert Committee on Rabies was convened in 1950 to review the status of prevention in human beings and animals and to consider the research required on different aspects of the disease. Following this meeting the committee issued its first report,⁶ making specific recommendations on these aspects of rabies. A second meeting of the committee is scheduled for September 1953. Activities of WHO arising out of the committee's recommendations are considered in another paper being given at this Congress.⁷ Briefly, these include WHO sponsored and assisted laboratory and field trials on hyper immune serum and different vaccines for the prevention of rabies in man, on the use of a new chicken embryo adapted virus vaccine for the control of rabies in dogs, and on the local treatment of bite wounds. Also, a service is offered by WHO to test the potency of rabies vaccines produced in national laboratories.

A regional rabies meeting was sponsored by WHO to meet requests from countries in three of its regions—Eastern Mediterranean, South East Asia, and Western Pacific. This meeting involving lectures, discussions, demonstrations, and laboratory training was held in India for two weeks in July 1952, and was attended by 55 medical and veterinary workers in rabies from 23 countries. WHO rabies consultants acted as discussion leaders and supervised the laboratory sessions. Based on the papers prepared by the discussion leaders for this meeting WHO is preparing a publication on laboratory techniques in rabies, which should prove very useful to laboratory workers on this disease throughout the world.

In addition, WHO rabies consultants have been sent on request to various countries to give advice and assistance on the production of vaccines and the field control of rabies. These countries include Ceylon, Greece, India, Indonesia, Iraq, Israel, Malaya, Mexico, Northern and Southern Rhodesia, Spain, Thailand, and Yugoslavia. Moreover, fellowships have been awarded to individuals in several of these countries to enable them to study abroad.

*Q fever*⁸

Because of the apparently increasing importance of this disease throughout the world a WHO sponsored survey of Q fever was undertaken in 25 countries.⁹ The results of this survey indicate that the disease is present in many countries hitherto believed to be free of infection. Research on the epidemiology of Q fever is being encouraged by WHO to obtain better knowledge of the disease as it affects animals and of its transmission to man.

⁶ *Wld Hlth Org techn Rep S* 1950 23.

⁷ Tierkel, E. S. and Kaplan, M. M. "Advances in the control of rabies" to be published in the Proceedings of the XVth International Veterinary Congress.

⁸ See *Wld Hlth Org techn Rep Ser* 1951 40 13.

⁹ A paper on this survey is in preparation.

WHO will shortly establish an international standard anti Q fever serum for use in medical and veterinary diagnosis

*Bovine tuberculosis*¹⁰

WHO has stimulated the interest of public health authorities in various countries and has encouraged them to co operate with agricultural authorities in the suppression of this disease in animals. In addition WHO has established an international standard for mammalian PPD tuberculin has forwarded work on such research problems as BCG vaccine and typing of the tubercle bacillus and in collaboration with FAO has undertaken studies on extra human sources of infection in highly infected human population groups of the Eastern Mediterranean Region

Brucellosis

Two joint FAO/WHO meetings of experts were held in 1950 and 1952 to advise on control procedures and research required on this world wide problem in man and animals. The reports¹¹ of these meetings are available and contain detailed instructions and recommendations on human chemotherapy diagnostic and other laboratory procedures for man and animals and field control in animals. The recommendations contained in these reports have exerted an important influence on brucellosis work internationally in particular they have been instrumental in introducing uniform procedures and practices in countries where the multiplicity of standards and criteria used in brucellosis work has been a source of confusion in evaluation of field and laboratory results

One of the important international advances in the past few years in the attack on brucellosis has been the establishment of thirteen FAO/WHO brucellosis centres in various countries of the world. These centres are located in Argentina Australia Denmark England France, Greece India Italy Mexico Turkey Union of South Africa USA and Yugoslavia. The centres are used for the preparation and testing of antigens vaccines and other biological products as diagnostic centres to stimulate studies of brucellosis prevalence in man and animals to forward programmes of brucellosis control in animals for research on special problems such as chemotherapy in human beings and bacteriological studies and as teaching and information centres for their own and nearby countries

Over one hundred brucellosis documents containing advance research information supplied by the FAO/WHO brucellosis centres and members of the FAO/WHO Expert Panel on Brucellosis have been published in mimeographed form and sent to brucellosis workers throughout the world. This

rapid exchange of research information has been a very valuable tool in co ordinating work on this disease

WHO brucellosis consultants have been sent upon request to Greece, Israel, Mexico, Spain, Turkey and Yugoslavia Also, in December 1952 consultants directed a brucellosis meeting in Chile for medical and veterinary workers from ten South American countries This meeting was designed to introduce standardized laboratory techniques in these countries¹ A similar meeting is scheduled for November 1953 in Mexico City for countries in the Caribbean and Central American region

Swine influenza

The XIVth International Veterinary Congress requested WHO to attempt a clarification of the relationship, if any between human and swine influenza Several strains of virus isolated in different countries from field cases of swine influenza were therefore submitted to the WHO World Influenza Centre in London for study and comparison with human influenza strains The results of this study indicate that, although the swine influenza strains examined are related to some human influenza strains (A group) the disease in swine at the present time is not of significant importance in human influenza epidemics as encountered in recent years Because of suggestive evidence of epidemiological relationship in the past between the human and swine disease however, the WHO Expert Committee on Influenza after considering the results of the comparative study recommended that continued research on this question be carried out¹³

Leptospirosis

Recent work has revealed that domestic animals play an important role as reservoirs of this disease in relation to man Steps have been taken by WHO to assist in the co ordination of research work in this field with particular reference to the clarification of typing procedures and diagnostic methods

*Hydatidosis*¹⁴

Technical assistance in large scale control programmes in Latin American countries was given by the Pan American Sanitary Bureau (WHO Regional Office for the Americas) A unique feature of this assistance was the preparation of a popular booklet of coloured cartoons explaining in simple terms the control of the disease This booklet has been translated and adopted for use in southern European countries

¹ World Health Organization Regional Office for the Americas (1952) *Seminario Sudamericano de Brucelosis* Washington, D.C.

¹³ See *Wld Hlth Org techn Rep S* 1953 64 6

See *Wld Hlth Org techn Rep S* 1951 40 0

Food Hygiene

Work in the field of milk and meat hygiene has been carried on jointly by WHO and FAO. Special consultants in these fields have been sent on request to more than twenty countries.

FAO and WHO sponsored the preparation of and subsequently published a monograph covering all aspects of milk pasteurization¹⁵ and in collaboration with UNICEF will conduct in Rome in October 1953 a training course for operators of pasteurization plants.

A WHO/FAO seminar on meat hygiene is scheduled for European countries in 1954. Later in the same year a meeting of a WHO/FAO expert committee on meat hygiene is planned in order to make recommendations on desirable procedures for the guidance of government agencies dealing with this question.

Development and Strengthening of Veterinary Public Health Services

Astide from the technical activities considered previously WHO has been offering services designed to facilitate and strengthen the organization of veterinary public health units in government health services. These services include consultant advice to governments upon request, the training of personnel and the provision of information on veterinary public health problems.

WHO consultants have visited many countries to assist in the establishment of veterinary public health units and specialized services within these units. Consultants in such specialized fields almost always undertake as part of their work the training of local professional and lay personnel. Indeed the problem of increasing the number of veterinarians and associated trained personnel is of fundamental importance in practically all parts of the world. For this reason assistance has been given wherever possible in strengthening veterinary schools and in training post graduate veterinarians by means of fellowships. Reference has been made previously to a number of training courses and seminars which also serve partially to meet the need for more and better trained personnel.

Innumerable requests are received by WHO from government services and individuals on various aspects of veterinary public health. As mentioned earlier authoritative documents have been published by WHO and FAO on the major zoonoses and on milk hygiene which have served a very useful purpose in answering queries on technical subjects. In addition requests are received concerning laws and regulations in various

¹⁵ K y l l D. Cuttall, J. R. Hall, H. S. M i t k a T R & Rowlands, A. (1953) *Milk pasteurization: planning plant per and on t G nev* (W l d Health Organiz t Mon g ph S le N 14). Also published as No. 23 in the FAO Agricultural Studies series.

countries for technical articles not available locally, and for assistance in obtaining strains of micro organisms and biological products. These requests are met as far as is possible within the resources of WHO, or are referred to the proper authorities.

WHO has carried out the veterinary public health activities outlined in this paper in response to specific requests from countries and in fulfilment of its obligations under the WHO Constitution. The plans of WHO for the future include provision for continuation of these activities, in the belief that they constitute an appreciable contribution to the health and welfare of mankind.

TUBERCULOSIS CONTROL IN SYRIA¹

Tuberculosis represents the chief threat to the health of the people of Syria now that methodical control campaigns have brought about a regression of malaria. Its spread has been favoured by conditions created by the war in Palestine and the influx of refugees. Anxious to curb the ravages of this disease, the Syrian Government instituted a tuberculosis control programme in June 1952, with the aid of a WHO team. Within a year, the atmosphere of confidence and international collaboration established in this programme had led to gratifying results.

Tuberculosis Endemicity

Statistics collected in Syria since 1950 by International Tuberculosis Campaign teams and by Syrian teams working on mass BCG vaccination projects² give a fairly accurate picture of the prevalence of the infection. From 1 March 1949 to 20 May 1953 545 000 tuberculin tests and 234,000 BCG vaccinations were performed in various parts of Syria.

It is estimated on the basis of fragmentary information that there are about 35 000 persons suffering from tuberculosis and that the annual mortality rate is about 100 per 100 000 inhabitants. Early observations by the WHO team in Damascus revealed the severity of the clinical forms which were found whether it was a question of primary lesions (frequent primary infections in children being accompanied by disturbances of pulmonary ventilation or by rupture of the lymph nodes) or of post primary lesions (frequent incurable ulcerated bilateral lesions in adults). This

¹ Article drawn from the report "Blau d'une année d'activités antituberculeuses en Syrie" prepared by Dr E. Berthet, WHO consultant at the Damascus Antituberculosis Training and Demonstration Centre in collaboration with A. Mochi, F. Cornet, C. Ashwin, and E. Holst, other members of the team.

² International Tuberculosis Campaign (1951) *Mass BCG Vaccination in Syria 1950* Copenhagen.

might be attributed to the lack of medical facilities which makes isolation of infectious cases impossible. Many children live in contact with tuberculous persons and are thus exposed to intensive and repeated contamination resulting in the development of particularly severe forms of the disease.

Organization of the Control Campaign

Upon arrival of the WHO team at Damascus a problem which immediately arose was that of setting up a training and demonstration centre. Premises large enough to house such a centre had to be found for there were indications from the very beginning that the activities of the centre would assume significant proportions. The Syrian Government made available for this purpose three wings of a hospital. WHO supplied most of the essential equipment and the Government also provided certain installations and furnishings. The centre was inaugurated on 18 November 1952. It comprises five main sections each directed by a member of the WHO international team assisted by one or more Syrian collaborators.

The activities at the Damascus centre showed particular development from December 1952 to June 1953. A district in Damascus was chosen to serve as a pilot area for a demonstration of modern tuberculosis control techniques. These techniques which are to be integrated into the general public health programme of the country comply with certain standards of efficacy and economy.

At the centre examinations are carried out routinely as follows:

1. At the first visit to the epidemiological service a tuberculin test is given (intradermal reaction to 5 international units of tuberculin) and a miniature x ray is taken.

2. At a second visit three days later all negative reactors receive an intradermal injection of BCG and all persons radiologically suspect are x rayed (full size) and are sent to the laboratory for examination of bronchial secretions obtained by laryngeal swabbing if the patient does not expectorate.

3. Three days later all persons suspected of being infected with tuberculosis are sent with their x rays and the results of the test of bronchial secretions to the antituberculosis clinic. There the physician makes a synthesis of the various examinations, establishes a diagnosis and indicates treatment.

In the pilot area nurses under the direction of a WHO nurse-consultant systematically visit all the families in which cases of active tuberculosis or of recent primary lesions have been detected. They establish in the home of the patient a "social and prophylactic diagnosis" based on information which they obtain concerning the way of living, the educational level and the economic situation of the family. They then give all the necessary

instructions to the patient's relatives. Their observations are recorded on a form, which is kept up to date. In addition, the WHO nurse-consultant marks on a map of the district all the foci of infection which have been notified so that there is a complete record of tuberculosis in the demonstration area.

The vaccination techniques used by the WHO team are those which have been recommended by the Tuberculosis Research Office in Copenhagen on the basis of international vaccination campaigns. The tuberculin tests are made intradermally. Any reaction to 5 units of tuberculin which does not exceed 5 mm induration is considered negative and the subject is then vaccinated. The vaccinations are performed with BCG vaccine from the Institut Pasteur, Paris supplied by UNICEF.

In six months the Damascus centre had to its account 25,000 vaccinations and 550 home visits. Case finding results were equally satisfactory. 7,500 radiological examinations were made and 600 cases of tuberculosis detected.

Training Programme

The training of competent technical personnel is the first condition for any rational organization of tuberculosis control.² This is one of the essential functions of the antituberculosis training and demonstration centre. Its task is not to train highly specialized personnel but to 'give to doctors, nurses and technicians theoretical and practical post graduate training which will enable them to acquire exact knowledge of modern tuberculosis control techniques'.³ This training must offer those who take it an opportunity to learn the most recent developments, to discuss new data, and to obtain extensive practical experience in methods of prophylaxis, diagnosis and treatment. The general teaching programme has been carried out in various ways through lectures, discussions, seminars and clinical practice.

Health education of the public, a vital element in all tuberculosis control work, has also played an important part in the activities of the centre. The WHO team first made contact with teaching personnel of Damascus by giving a series of lectures at teachers training schools; other lectures were presented to the general public. The national broadcasting system transmitted eight talks on health education in 1952-3 and the press made a particularly valuable contribution. In addition World Health Day was the subject of a number of celebrations on 7 April 1953.

Plans for the Future

Tuberculosis control is the starting point for a large scale health programme and is intended as an integral part of a plan drawn up by the Syrian

Government for general improvement of living conditions. An inventory of health resources showed that in Syria as in many other countries the organization of tuberculosis control is faced with two obstacles: absence of qualified personnel and lack of medical facilities. Health personnel are not only too few, they are also badly distributed: there are too many in the towns and not enough in rural areas.

The WHO team has proposed a five year plan for the control of tuberculosis. This plan provides in particular for 8 new regional antituberculosis centres, 12 antituberculosis vaccination teams and 1 000 to 1 500 additional beds for the hospitalization of tuberculous patients. By taking advantage of the priority given to this specialized medico-social activity it will be possible to create in the various parts of the country a nucleus around which may be built the elements of a general public health organization.

EXECUTIVE BOARD TWELFTH SESSION

In a three day session (28-30 May 1953) the Executive Board considered for the most part decisions of the Sixth World Health Assembly which had just ended.

One of the major problems was that of technical discussions at Health Assemblies. During the Sixth Assembly various opinions concerning the value of these discussions and the method of their conduct had been expressed and several topics for future discussions had been suggested. This matter was referred to the Executive Board which accordingly took a number of relevant decisions. Specifically the Board

(1) decided that the topic for the discussions at the Seventh Assembly should be "Public Health Problems in Rural Areas"

(2) agreed that the discussions should be continued on an informal basis

(3) decided that they should be limited to a total period not to exceed the equivalent of two working days and that they should take place on the Saturday of the first week of the Assembly and then again from 8.30 to 10.00 a.m. on the following Monday and subsequent days as necessary

(4) requested that the Director General take appropriate action to prepare the technical discussions in accordance with this decision and arrange for them to be introduced by appropriate experts

The whole question of technical discussions at subsequent Health Assemblies is to be considered by the Board at its thirteenth session which it was decided will be held in Geneva starting 12 January 1954.

Another problem of considerable interest was that of the procedure for the selection of Recommended International Non Proprietary Names for Drugs. The Board adopted the following procedure. Proposals for Recommended International Non Proprietary Names will be submitted to WHO on a form provided therefor. These proposals will then be submitted by the Director General to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose who will consider them in the light of certain general principles¹. The name used by the person discovering or first developing and marketing a drug will be accepted, unless there are compelling reasons to the contrary. Following the examination of the proposed names by the panel members, the Director General will give notice—by publication in the *Chronicle* and by letter to Member States and to national pharmacopoeia commissions or other bodies designated by Member States—that a proposed international non proprietary name is being considered. Comments on the proposed name, or formal objections to it, may be sent to WHO within six months of the date of publication of the name in the *Chronicle*. Where there is a formal objection, WHO may either reconsider the proposed name or attempt to obtain withdrawal of the objection no name being selected as a Recommended International Non Proprietary Name while a formal objection exists. If there are no objections then the Director General will give notice—again by publication in the *Chronicle* and by letter—that the name has been selected by WHO as a Recommended International Non Proprietary Name. In forwarding such a name to Member States the Director General will request that it be recognized as the non proprietary name for the substance and that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the name including prohibiting registration of the name as a trademark or trade name.

Acting upon a proposal, submitted by the Government of Uruguay that WHO give recognition to the work begun by Florence Nightingale a hundred years ago, the Board suggested that a subject related to the role of nursing in public health including a reference to the contribution of Miss Nightingale, be the theme for the celebration of World Health Day in 1954.

Occupational health was given special consideration by the Board in view of its increasing importance because of the rapid industrialization of many countries. The Director General was requested to study along with the International Labour Organisation measures for strengthening WHO activities in this field and to report to the Board at its next session.

It was decided that the Seventh World Health Assembly will convene in Geneva on Tuesday, 4 May 1954.

¹ See *Chron. Wild Hlth Org.* 6: 324

The reports of four expert groups were examined and approved for publication—the Expert Committee on Mental Health (third report) Expert Committee on Plague (second report) Joint FAO/WHO Expert Committee on Nutrition (third report) and Joint UN/WHO Meeting of Experts on the Mental Health Aspects of Adoption

This session of the Executive Board was attended by the following

<i>Members</i>	<i>Delegations</i>
Dr Melville D Mackenzie (<i>Chairman</i>)	United Kingdom of Great Britain and Northern Ireland
Dr F Hurtado (<i>Vice Chairman</i>)	Cuba
Dr W A Karunaratne (<i>Vice Chairman</i>)	Ceylon
Dr S Hayek (<i>Rapporteur</i>)	Lebanon
Dr H Hyde (<i>Rapporteur</i>)	USA
Dr G Alivisatos	Greece
Dr O Andersen	Denmark
Dr S Anwar	Indonesia
Dr C van den Berg	Belgium
Dr M J Ferreira	Brazil
Professor H M Jettmar	Austria
Dr O J Leroux	Canada
Dr F S Maclean	New Zealand
Dr M A Maleki	Iran
Dr J N Togba	Liberia
Dr O Vargas Méndez	Costa Rica
Dr P Vollenweider	Switzerland
Dr S Al Wahbi	Iraq

REPORT OF WHO EXAMINED BY ECOSOC

The annual report on the work of WHO¹ was presented to the sixteenth session of the United Nations Economic and Social Council on 1 July 1953 by Dr P Dorolle Deputy Director General of the Organization. Dr Dorolle called attention to the emphasis in the report on the interdependence of economic, social and health problems, stating that where there was no economic and social development it was impossible to raise the standard of health in any given country or to break through the vicious circle of poverty, disease and ignorance surrounding a large number of countries. The main difficulty, he said, lay not so much in lack of funds as in the shortage of qualified personnel for carrying out programmes and the training of such personnel was WHO's fundamental task. In this connexion WHO was stressing the training of personnel within the beneficiary countries themselves through the establishment of training and demonstration centres.

It had drawn up a five year assistance programme under which the contributions of receiving governments would at first be small but would reach 100% by the end of the fifth year

Dr Dorolle also spoke of WHO's role as a co-ordinator in the field of health, of the budgetary difficulties arising from cuts in Technical Assistance funds, and of the development of regionalization. He said that the Director General had not sought to present spectacular results in his report. In 1952 WHO had been content to push forward the work it had accomplished in the previous year as part of its long term programme. WHO felt that results had been achieved when a particular activity could be brought to an end because the country concerned was in a position to carry on alone the work it had started with WHO's assistance.

Comments on WHO's report were made by Council members from India, Egypt, France, the USA, Argentina, the United Kingdom of Great Britain and Northern Ireland, Yugoslavia, Turkey, Belgium, China, Australia, Sweden, Venezuela, Uruguay, the Philippines, and Cuba.

The representative of India spoke of the success of the policy of regionalization, and of the appointment of area representatives in certain countries to co-ordinate the work of the international agencies with that being undertaken at a national level. The representative of Egypt also paid tribute to the organization of WHO's work and to the success of decentralization. The representative of China stated that, although his Government was, as a general rule, averse to the opening of branch offices by the specialized agencies, in the case of WHO it felt that such a development should be encouraged in view of the important and successful work being carried out by the regional offices.

The USA representative congratulated WHO on the progress made in adjusting its programme in the light of experience and in developing techniques suitable for health activities on a world scale. The US Government, he said, believed that concentration of effort on strengthening national health services was essential if international aid was to have lasting results and admired WHO's efforts in that direction.

The representative of the United Kingdom paid tribute to the inspiration of Dr Chisholm in the work of WHO and mentioned as a particular achievement of the Organization the codification of the International Sanitary Regulations.

The Australian representative endorsed remarks which Dr Dorolle had made concerning the necessity for concentrating the responsibility for technical assistance programmes in the hands of recipient governments, who were the best judges of how such programmes could best be fitted into the framework of the countries' needs as a whole.

Representatives of certain other countries—e.g. the Philippines, Venezuela, and Yugoslavia—expressed their appreciation of WHO aid within their own countries.

In a resolution proposed by India the Council took note of the annual report of WHO with appreciation and noted with approval the continued emphasis on the development of effective public health services and programmes for the training of health workers. This resolution was adopted by a vote of 16 in favour and none against with two abstentions (Poland and the USSR)

ECOSOC Hears Statement on Technical Assistance Programme

The work of the Technical Assistance Committee of the Economic and Social Council is of interest to WHO as one of the participating agencies in the United Nations Technical Assistance programme. On 22 July 1953 Mr David Owen, Executive Chairman of the Technical Assistance Board, presented the fifth report of this Board to the Committee stating that this was "what must be the most crucial time in the development of the programme". It was, he said, a time both of great achievement and of great danger. The danger to which he referred was that of uncertainty regarding financial support of the Technical Assistance programme.

Recording the year's achievements, Mr Owen said: "during the course of 1952 the programme developed remarkable momentum. By the end of the year the number of countries and territories which were assisted increased to 97, the number of experts increased from 717 to 1 626, and the number of Fellows who were placed in various countries increased from 845 to 2 127. The programme not only increased in number and range, it increased in its universality. Whereas 55 governments pledged contributions in 1951, there were 65 in 1952, and in 1953 there were 67, to which may be added the pledges of the Soviet Union and of Poland which have been made during this session." He spoke with gratification of the fact that recipient countries had also begun to be assisting countries. India, for example, which was itself a beneficiary of the programme, provided 84 experts and was a host to 91 Fellows. He mentioned WHO's part in the programme. Perhaps the most obvious results have been in the field of health, where WHO teams have contributed not only to health but to productivity by helping to free great areas of yaws and malaria.

Mr Owen stressed the long range nature of the Technical Assistance programme and appealed to governments for the necessary financial support, concluding his remarks thus: "this programme is the proud child of the Economic and Social Council, perhaps the most important experiment in international economic co-operation which has come out of the United Nations and its associated agencies. It is now for governments to decide whether this programme, so boldly conceived and so successfully inaugurated, is to be carried forward."

Reports of Expert Groups

BILHARZIASIS

A number of surveys of bilharziasis in certain countries of Africa and the Eastern Mediterranean Region, some sponsored by WHO, have given an idea of the wide distribution of this disease and of its vectors, actual and potential, in tropical and subtropical areas throughout the world. However, further epidemiological studies are needed to determine the true prevalence of bilharziasis and to determine its importance as a cause of disability or of death. The first report of the Expert Committee on Bilharziasis, published in the *Technical Report Series*,¹ contains information of practical value for such studies.

This report presents a critical analysis of the various methods of diagnosis of bilharziasis including recovery of *Schistosoma* eggs from urine and stools, biopsy techniques, and immunological tests such as intradermal, complement fixation and flocculation reactions.

TABLE 1. COMPARATIVE EFFICIENCY OF DRUGS AND TECHNIQUES USED IN BILHARZIASIS TREATMENT

Drug	Treatment technique	Percentage efficiency in		
		<i>S. haematobium</i> infection	<i>S. mansoni</i> infection	<i>S. japonicum</i> infection
SAT	Intensive course	85-90	85-90	Not used
Miracil D	Oral route	80-85	Not yet proved	No value
SAT	Classical course	75-80	70-75	70-75
Fouadin	Intravenous route	60-65	55-60	55-60
Fouadin	Intramuscular route	50-55	45-50	45-50
Anthiomaline	Intramuscular route	50-55	45-50	Not used
Anthiomaline	Intravenous route	45-50	40-50	Not used

SAT, sodium antimony tartrate.

Miracil D, Miracil D hydrochloride, a complex thioxanthone preparation. Also known by a variety of other names including lucanthone hydrochloride (British approved name), Nilodin, and 3735 RP.

Fouadin, sodium antimony bispyrocatechol 3,5-sodium disulfonate, known by a variety of names including stibophen (*Pharmacopoea Internationalis*). Reprodal and Fantorin.

Anthiomaline, lithium antimony thiomalate.

Another section is devoted to the epidemiology of bilharziasis. The role of the molluscan vectors is considered, present knowledge concerning the vector-parasite relationships and the physiology of the intermediate hosts being reviewed and attention being drawn to the need for study of their morphology, taxonomy and bionomics. This is followed by a discussion of the economic and social factors which influence the development of the disease in man. A detailed description of standard procedures for epidemiological surveys is given.

Bilharziasis control is examined from two aspects: the destruction of the molluscan vectors, and the treatment of infected persons. The report reviews the results obtained in the laboratory and in the field with a large number of molluscicides against various vector species and recommends certain measures for making snail control more effective. Present methods of treatment are considered at some length in terms of the efficacy of certain medicaments against *Schistosoma haematobium*, *S. mansoni* and *S. japonicum* infections. A tentative classification of the therapeutic efficiency of the various drugs in use is given in table I.

Review of WHO Publications

INSECT CONTROL

The control of numerous communicable diseases is dependent upon the control of certain insects. Insecticides therefore play an important role in many disease-control programmes and studies concerning their use, efficacy and toxicity are appearing with increasing frequency in medical literature. A recent number of the *Bulletin of the World Health Organization* is devoted entirely to the subjects of pesticides and insect control. Its contents include an article "Toxic hazards of certain pesticides to man" by J. M. Barnes¹ and a select bibliography on the toxicology of pesticides in man and mammals² which comprise a monograph reviewed elsewhere in the present *Chronicle*³. In addition, this number of the *Bulletin* contains several articles on various aspects of insect control.

C. Y. Chow and E. S. Thevasagayam, entomologists from the Insect-borne Diseases Control Training Centre in Kurunegala, Ceylon, describe a simple device for aiding in the control of houseflies⁴. This device, a portable frame tied with string soaked in insecticide (dieldrin), is inexpensive.

¹ B. H. Wild. *Hlth. O. R.* 1951, 3, 419.

² B. H. Wild. *Hlth. O. R.* 1953, 3, 533.

³ See p. 246.

⁴ B. H. Wild. *Hlth. O. R.* 1953, 3, 421.

and effective and could be useful in many communities where sanitation is unsatisfactory and where the housefly is still susceptible to insecticides.

Houseflies are also the subject of two other articles in this number of the *Bulletin*. One by S. Madwar and A. R. Zahar, of Cairo, presents the results of a three year study on the ecology of houseflies in Egypt.⁵ In the other, G. G. Mer, of the Malaria Research Station at Rosh Pina, Israel, considers the problem of control of houseflies which have developed resistance to DDT and against which it may be necessary to use other insecticides.⁶ For the sake of economy, and to prevent the rapid development of new resistant strains, spraying of this insecticide should be restricted as far as possible, to those surfaces known to be most frequented by flies. The author determined the day time distribution and the resting habits of flies inside a number of buildings which were sprayed with DDT. His investigations indicate the desirability of developing an insecticidal preparation adaptable to the residual treatment of furniture and, in the absence of such a preparation, of restricting treatment to doors and windows and such night time resting places as are to be found inside rooms.

Observations on the development of resistance to DDT by *Anopheles sacharovi* are reported by G. A. Livadas and G. Georgopoulos,⁷ who attribute this development mainly to systematic house spraying with insecticide, since 1946, in the district concerned.

In a report from the Communicable Disease Center of the US Public Health Service, the results of investigations directed primarily towards the improvement of techniques and materials for the disinsectization of aircraft are presented.⁸ The disinsectization of aircraft is a problem of international health significance and, as such, has been given consideration by WHO. The techniques described in this paper vary to some extent from those recommended by the Organization for worldwide use.⁹ The materials tested include various aerosols, residual insecticides and lindane vapours.

Bull. Wld. Hlth. Org. 1953, 8, 513

Bull. Wld. Hlth. Org. 1953, 8, 521

Bull. Wld. Hlth. Org. 1953, 8, 497

Bull. Wld. Hlth. Org. 1953, 8, 57

See *Wld. Hlth. Org. techn. R. p. Ser.* 1951, 34, 4

TOXIC HAZARDS OF CERTAIN PESTICIDES TO MAN

The increasing use of pesticides in the control of disease and the protection of food has called attention to the necessity for determining to what extent such substances are toxic to man. Once the toxicity of a certain preparation has been determined, another problem sometimes arises: it must be decided whether the hazard to those involved in its manufacture

and application is great enough to warrant abandoning its use when this may mean a threat to the health of many. Cognizant of these problems, the Fourth World Health Assembly¹ and the Executive Board² requested that the Director General seek consultant aid in drawing up a report on the existing information relative to the chronic and acute toxic effects on man of some of the preparations used as insecticides, anti-parasitics, molluscicides, rodenticides and herbicides in agriculture and health activities.

The resulting report prepared by Mr J. M. Barnes, WHO consultant and Director of the Toxicology Research Unit of the Medical Research Council of Great Britain, has now appeared in the *Monograph Series* of the World Health Organization³. It covers topics such as the value of pesticides in disease control and crop protection and the hazards and control of same during their manufacture and application and to third parties (i.e. the general public through residues of pesticides in food). The author states that while some of the materials in use today may be capable of producing severe and fatal poisoning if handled carelessly in the factory or during application, with experience the number of accidents appears to have decreased despite increasing use of these materials. Really serious disasters have occurred when they were introduced for the first time into certain countries. It remains necessary therefore to ensure by education and instruction that these materials are used properly. With regard to the danger to the general public through ingestion of residues of pesticides in foods, he found "no evidence whatsoever that the ingestion of these materials in this way [i.e. consumption in small quantities over many years] has produced undesirable reactions. He concludes that none of the materials in use today is so inherently poisonous that its safe use is impracticable. There is need however for further study particularly for surveys over a number of years of those persons who are most exposed to pesticides in their work.

In annexes to the report are included discussions of the toxic properties of some pesticides (the chlorinated hydrocarbon group of insecticides, the organo-phosphorus insecticides, DNC and related dinitro derivatives, pentachlorophenol and organic mercurial compounds), the control of agricultural pesticides in different countries and a glossary of the names of various pesticides.

An extensive bibliography of almost 690 references on the toxicology of pesticides in man and mammals completes this monograph.

R. I. t. WHA (Off. R. W. M. H. A. O. g. 35 29)
 R. sol. EBS R52 (Off. R. W. M. H. A. O. g. 36 17)
 Barnes, J. M. (1953) *Toxicology of Pesticides* pp. 1-6. (World Health Organization, Geneva)
 Monogr. pub. S. N. 16) 129 p. Res. price 7/6, \$1.50 o. sw. f. 6.

MANUAL ON INSECTICIDES

The specifications established by the WHO Expert Committee on Insecticides during the past four years have been brought together in a single loose-leaf, hard bound volume bearing the title *Insecticides manual of specifications for insecticides and for spraying and dusting apparatus*¹ These specifications are intended to serve as a guide for users of insecticides and spraying equipment as well as for the relevant manufacturers

The manual is divided into two main sections specifications for insecticides and their formulations and specifications for spraying and dusting apparatus The first deals with (1) technical products, including DDT, benzene hexachloride gamma isomer benzene hexachloride concentrates methoxychlor, chlordane, dieldrin and pyrethrum extract (2) water dispersible powder concentrates of DDT and benzene hexachloride, and (3) emulsion concentrates of DDT, benzene hexachloride and dieldrin The second part begins with the standard nomenclature for types and parts of spraying equipment, as established by the committee and then gives the specifications for various kinds of sprayers (compression, hand and stirrup pump-type) for dusters, and for parts and accessories

The loose leaf format of the manual makes possible the insertion of additions and amendments, which will be forwarded to holders of this volume as they are issued The specifications are therefore available in a form which is convenient and which enables them to be kept up to date

Price £3 \$8.50 or Sw fr 25 — including the service of supplying additions and amendments up to at least 31 December 1955

THE AFRICAN MIND IN HEALTH AND DISEASE

A noteworthy addition to the list of WHO publications on psychology and psychiatry is a recently published monograph by Dr J C Carothers *The African mind in health and disease a study in ethnopsychiatry*¹ As a WHO consultant in mental health Dr Carothers added to an already considerable knowledge of African psychology and psychiatry gained through years of experience as a medical practitioner in Kenya to prepare a study which may prove to be as thought provoking as Dr John Bowlby's *Maternal care and mental health*² The psychology and psychiatry of the African may be relevant to the study of most preliterate peoples and the

¹ Carothers J C (1953) *The African mind in health and disease a study in ethnopsychiatry* Geneva (World Health Organization Monograph Series No 17) 177 p ges Price 10 \$ 00 or Sw fr 8

² Bowlby J (1951) *Maternal care and mental health* Geneva (World Health Organization Monograph Series No 2)

comparison of the working of the African mind with that of man in Western cultures may shed new light on some of the psychiatric problems of the latter

Dr Carothers attempts to give a picture of the "untouched rural African" and to disentangle the parts that constitutional and environmental factors play in producing characters distinctive from those seen in Western cultures. He begins with a description of the African in his physical background—who he is, how he lives and is nourished, to what diseases he is subject and what effects his particular culture has on him psychologically. He then turns to the mind of the African, reviewing morphological and electrophysiological studies which have been made of the brains of Africans and proceeding to a detailed consideration of normal psychology in relation to environment and of mental deficiency and derangement as observed in Africans.

Significant is his finding that the incidence of mental illness among Africans is only about one tenth of that recorded in both White and Negro populations living in more highly developed areas such as Western Europe and the USA. Also important are his observations concerning the effects of detribalization on the mental health of the African.

After carefully weighing the influence of physical and cultural factors in the formation of African modes of thinking, Dr Carothers concludes that the latter are largely responsible for the distinctive features of African psychology. He draws an interesting contrast between these features and those peculiar to European mentality and expresses the belief that the advantage does not lie wholly with the European.

This monograph, in addition to bringing together much material which has never before been reviewed in toto, poses questions which may stimulate further investigation on a subject which offers many possibilities. Its interest extends beyond the realm of the psychologist and psychiatrist in that it has implications for all those concerned with "technical assistance" to underdeveloped areas: the changes which economic development will bring about in such areas are bound to have an effect on the psychology of the inhabitants, and Dr Carothers' study should be a valuable aid to understanding this psychology.

WORLD MEDICAL PERIODICALS

World medical periodicals published by the World Health Organization (WHO) on behalf of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and WHO¹ provides a guide to the world's

current periodicals in the medical and biological sciences. This book lists titles of all current medical periodicals which have been traced, all medicobiological periodicals regularly surveyed by certain abstracting agencies, and well known journals which ceased publication during the period 1900-50. Titles of periodicals devoted to pharmacy, odontology, and veterinary medicine are included. Each of the 4,000 entries gives—in this order—title, place of publication, language or languages of publication (if not apparent from the title) periodicity, symbols indicating which of the principal abstracting services regularly scrutinize the journal and finally, an abbreviation of the title based upon the code of rules introduced by the *World List of Scientific Periodicals*, as modified by the International Organization for Standardization. It is hoped that these standardized abbreviations will contribute to a greater uniformity of bibliographical citations in medical literature.

The value of the list is greatly enhanced by the inclusion of a subject index. Under such broad subjects as 'Biochemistry', 'Endocrinology', and 'Hygiene and public health' the serial numbers of the corresponding periodicals are entered. It is thus possible to make a rapid check of the number, exact titles and places of publication of periodicals dealing with any subject field. An index by countries of publication is also included. Both indexes and the explanatory preface, are trilingual, entries being given in English, French, and Spanish.

The work of producing *World medical periodicals* was undertaken jointly by UNESCO and WHO, following a decision of the UNESCO Coordinating Committee on Abstracting and Indexing in the Medical and Biological Sciences at whose meetings WHO was represented. WHO has assumed responsibility for the continuation of this work, and it is planned to enlist international collaboration in the preparation of regular issues of revised editions.

World medical periodicals will be of particular value to all concerned with medical documentation and with the preparation of scientific material for publication.

EPIDEMIOLOGICAL CABLE CODE

WHO has recently published the CODEPID or Epidemiological Cable Code, which will be used throughout the world for transmitting information on epidemics and quarantine matters. The Code, which allows for coding and decoding messages in English and in French, lists 135 epidemic diseases. It includes about 50,000 code words, of which 20,000 appear in the Geographical Index, devoted to code equivalents for names of all countries.

territories and their administrative subdivisions as well as major towns ports and airports This index will be completed in the near future by a set of 52 maps

The CODEPID will come into use on 1 December 1953 and will supersede another code (the AA Epidemiological Cable Code) which has been in use since 1925 by health administrations of countries in the Far East and the Pacific area It aims to facilitate the economical and accurate transmission by telegram of epidemiological and quarantine information as required by the International Sanitary Regulations Its use is restricted to national health authorities and WHO Offices

VITAL STATISTICS AND CAUSES OF DEATH 1950

Part I of *Annual Epidemiological and Vital Statistics 1950* has just been published by WHO under the title "Vital Statistics and Causes of Death" ¹ Part II entitled "Cases of and Deaths from Notifiable Diseases" will appear shortly

The 1950 "Vital Statistics and Causes of Death" does not differ in so far as the scope of its subject matter is concerned from the volume relating to the period 1947-9 which appeared last year ² It includes the same tables giving the basic information which is indispensable for the understanding of mortality statistics—that is areas and populations of the various countries population structure by age and sex and general vital statistics (nuptiality natality general mortality infant and neonatal mortality) for selected countries and for some large cities Monthly figures complement this information There are three particularly interesting features—fertility rates according to the age of the mother together with gross and net reproduction rates specific mortality rates by age and sex and deaths among children under five years of age classified according to detailed age groups and sex

With regard to statistics of causes of death the volume includes two general mortality tables the first giving deaths from principal causes by sex for selected countries and the second showing mortality (in some cases with seasonal distribution) from the principal communicable diseases for large cities in various parts of the world An important series of tables covers mortality statistics in 32 countries classified according to the International Abridged List and given by sex and age With these data on populations by sex and by age it will be possible to calculate specific mortality rates

World Health Organization (1953) *Annual Epidemiological and Vital Statistics 1950 Part I Vital Statistics and Causes of Death* Geneva, 371 p. price 33/6 \$5.00 + Sw. F. 20.— Bibliographed too
English and French

See *Ch. Wld Hlth Org* 1952 6 274

As in the case of the volume for the years 1947-9, readers will find a table of the principal causes of death among children under five years of age, according to age and sex and tables of tuberculosis and cancer mortality figures classified according to anatomical location, and by age and sex. A further table gives the latest information available on life tables, including life table death rates, survivors, and expectation of life.

Three annexes complete this important work. They comprise a series of graphs accompanied by a brief text and numerical data, showing the considerable drop in certain countries during recent years in mortality from tuberculosis of the respiratory system, up-to-date maps showing the various WHO Regions and, finally, a list of WHO Member States as at 31 December 1952.

First Conference of National Committees on Vital and Health Statistics

At the 1948 International Conference for the Sixth Decennial Revision of the International Lists of Diseases and Causes of Death it was recommended that the various governments of the world establish national committees on vital and health statistics to study statistical problems relative to health. The formation of such committees was also the subject of recommendations by the First World Health Assembly and by the Expert Committee on Health Statistics. The latter at its second session proposed that WHO initiate an international conference of representatives of such national committees and, at its third session, specified the subjects which should be considered at this conference.

In January 1953 a preparatory programme committee for the First Conference of National Committees on Vital and Health Statistics met in Paris. Present were representatives of national committees or their equivalent bodies of Egypt, France, Great Britain, the Netherlands and the USA. The national committees of Mexico and Venezuela were unable to be represented.

This preparatory committee, after full discussion, adopted a proposed agenda for the conference which has the following major headings:

- (1) objectives, organization and programmes of National Committees on Vital and Health Statistics or equivalent bodies
- (2) health statistics and related vital statistics that are essential within countries at different stages of development and
- (3) national implementation of international regulations or recommendations.

The last item includes consideration of the present position in different countries and of general viewpoints concerning WHO Regulations No. 1, the International Statistical Classification of Diseases, Injuries and Causes of Death, the International Form of Medical Certificate of Cause of Death and WHO definitions of "live birth" and "foetal death".

In accordance with a decision of the preparatory committee, the First Conference of National Committees on Vital and Health Statistics will be held from 12 to 17 October 1953 at the General Register Office, Somerset House, London.

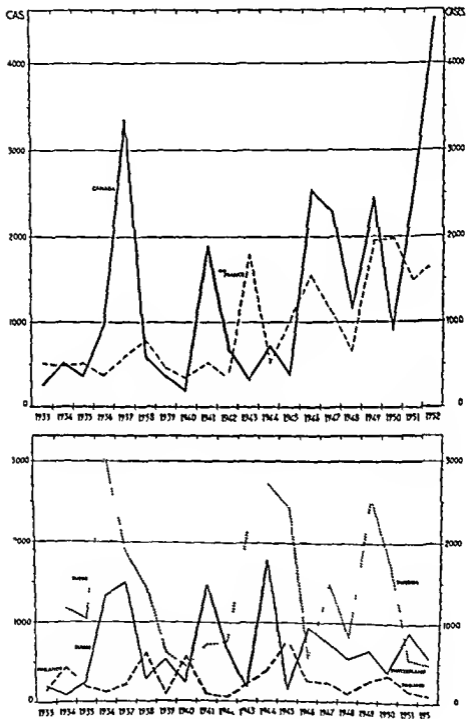
WORLD INCIDENCE OF POLIOMYELITIS IN 1952

A recent number of the *Epidemiological and Vital Statistics Report*¹ contains the latest official statistics on the annual incidence of poliomyelitis throughout the world. The *Report* stresses the difficulties in evaluating morbidity and mortality figures for this disease. Lack of laboratory confirmation which is beyond the reach of the general practitioner makes the diagnosis of atypical or mild forms almost impossible and few of the forms which are of doubtful diagnosis are reported to the health authorities. In many countries some clinical criteria for the recognition of borderline cases have been defined but there is as yet no international agreement concerning such criteria. This means that the number of cases notified in proportion to the actual number of clinical cases varies from country to country and even from one region to another within the same country. In addition the statistics from countries where medical practitioners are in short supply are of questionable value. However despite these qualifications and reservations the statistics in the *Report* are interesting and meaningful.

Africa

Slightly more than 2 200 cases—about 25% less than in 1951—were recorded in 1952 in about forty countries and territories covering the greater part of the African continent and islands. The distribution of these cases varied from that of the previous year except for the Belgian Congo which had 33% of the total number of cases in both years and the Union of South Africa which had 12% of the cases in 1952 and 15% in 1951. The morbidity in the Belgian Congo was less however, than that of the previous year—723 cases as compared with 1,009. A decrease in incidence of poliomyelitis was also noted in French Equatorial Africa, Angola (which had 95% fewer notifications than in 1951), Morocco under French Protectorate, Reunion Island, Ruanda Urundi, Southern Rhodesia, Tunisia and the Union of South Africa. Increases were observed in Madagascar, the Seychelles, Somaliland under Italian administration and Tripolitania. Relatively serious outbreaks occurred in Kenya, Tanganyika (where notifications exceeded all figures recorded since 1945), Mauritius (which experienced the fourth epidemic since 1934) and Uganda (where the number of cases recorded—219—was higher than for any of the twenty three preceding years).

FIG 1 POLIOMYELITIS CASES REPORTED IN VARIOUS COUNTRIES 1933-52



For 1952, provisional figure probably lower than the final figure
 1943 and 1944 86 departments out of 90 1945 87 departments

America

There was a serious epidemic of poliomyelitis in Canada in 1952. The number of notifications both in August and in September exceeded the annual totals for most of the twenty-eight preceding years. In the province of Saskatchewan alone where the greatest number of cases was recorded (1 205 as compared with 3 315 for the rest of the country) and the morbidity rate was the highest for any one province (about 131 cases per 100 000 inhabitants) there were more notifications in 1952 than for the whole country during most of these same twenty-eight years. A decrease in incidence was noted in Ontario, Quebec and Nova Scotia. This was particularly noteworthy with regard to Ontario where 60% of the 2 020 cases (provisional figure) reported in 1951 occurred.

In the USA the number of notifications for 1952 exceeded that for any one year since cases of poliomyelitis have been notified. There were more than 57 000 cases—twice as many as in 1951 (28 386) and 36% more than in 1949 (42 033) which had been the record year until then. For the months of August and September alone more cases were notified than for the whole of 1951.

The morbidity rate for 1952 was about 37 per 100 000 inhabitants as compared with 28 for 1949. A higher morbidity rate than this was recorded in 1916 when for the 28 States for which data were available plus the District of Columbia the rate was 42 per 100 000 inhabitants. The case fatality rate however seemed to be lower in 1952 than in 1949 or 1916.

Fig. 3 shows the number of cases and deaths in the USA from 1933 to 1952. It will be seen that the increase in morbidity was not accompanied by a parallel increase in mortality while the number of deaths attributed to poliomyelitis just about doubled the number of cases reported was seven times greater. The poliomyelitis mortality rate during the past twenty years has varied from 0.4 per 100 000 inhabitants (1938, 1942 and 1947) to 1.8 (1949).

Information concerning many of the other countries and territories of the Americas is either lacking or very incomplete. However it may be observed that the number of cases notified in 1952 was particularly high in Alaska, Guatemala and Peru with the largest number of notifications (74, 66 and 127 respectively) for any one year since 1939. In Chile where the maximum figure of 607 notifications in 1950 was almost reached again in Cuba which suffered a serious epidemic (345 cases notified) and in Brazil where epidemics occurred in certain parts of the country. In Uruguay the situation appeared "to have returned to normal" (26 notifications as compared with 95 in 1951). In Argentina, Mexico and the Panama Canal Zone some improvement was noted.

FIG 2 DISTRIBUTION OF POLIOMYELITIS IN THE USA 1949-52

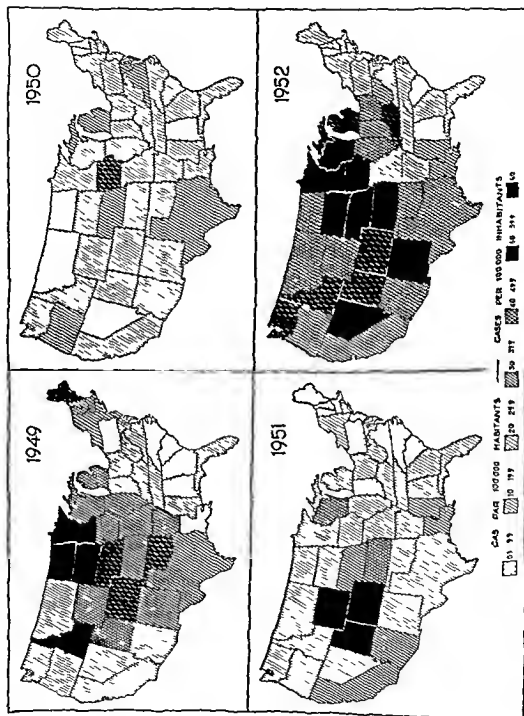
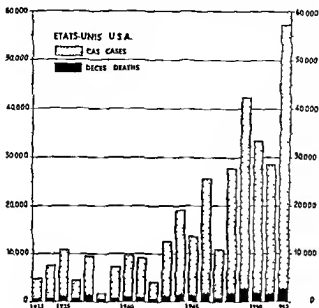


FIG 3 POLIOMYELITIS CASES AND DEATHS NOTIFIED IN THE USA 1933-52



Cases 1933 45 States out of 48 Deaths 1951 and 1952 estimates based on a 10% sample of death certificates

Asia

In the 25 countries and territories in Asia for which figures are available slightly more than 5 700 cases were recorded—about 1 000 less than in 1951. The number of notifications decreased in Ceylon Cyprus Hong Kong Israel Japan (46% less than in 1951) Jordan Malaya Philippines Sarawak and Singapore. In certain other countries there was a considerable recrudescence: in Lebanon two and a half times as many cases were recorded (60) as in all the eleven preceding years together; in Iraq the number of notifications equalled that for the two preceding years and for 1949 in which year the maximum figure for the past quarter of a century was recorded; in India the number of cases treated in the hospitals of certain cities was almost twice as high in 1952 as in 1951. Three hundred and twenty five cases were reported in Thailand from 1 July (when morbidity statistics were established for the first time) until the end of the year.

Europe

While there was a considerable outbreak of poliomyelitis in Europe in 1952—about 32 000 cases twice as many as were registered in 1951—

the number of cases was 45% less than in the USA, whose population is half of that of the European countries for which statistics are available. The countries which were most affected, and in which more than half of the cases occurred, were the Federal Republic of Germany, Denmark, the Netherlands and Belgium. Less marked increases over the figures for the previous year were observed in England and Wales, France, Spain, Northern Ireland, Portugal, and the Republic of Ireland. Below are tabulated the poliomyelitis notifications in 1951 and 1952 for the countries of Europe for which data are available.

<i>Countries</i>	<i>1951</i>	<i>1952</i>	<i>Quotient 1952 1951</i>
Luxembourg	2	61	30.5
Denmark	383	5 711	14.9
Belgium	118	897	7.6
Germany (Federal Republic of)	1 269	9 517	7.5
Netherlands	568	1 712 ^f	3.0
Spain ^a	541	1,577	2.9
Northern Ireland ^b	89	165	1.9
Berlin ^c	115	211	1.8
Ireland (Republic of)	63	95	1.5
England and Wales ^b	3 095	4 486	1.4
Portugal (mainland)	107	131	1.2
France	1 493	1 665	1.1
Italy	2 867	2 755	1.0
Sweden	551	492	0.9
Scotland ^b	382	285	0.7
Malta	44	31	0.7
Switzerland	889	597	0.7
Turkey	27	17	0.6
Finland	150	82	0.5
Austria	414	200	0.5
Yugoslavia	276	133	0.5
Iceland	84	30	0.4
Norway	2 217	715	0.3
Greece	291	43	0.1
Trieste (Free Territory of) ^d	28	3	0.1
Saar ^e	313	22	0.1

^a Paralytic cases only

^b Total notifications

^c Western sectors only

^d British USA Zone

^e July-December

^f Corrected annual total

The epidemic in Denmark was a serious one: the 5 711 cases (of which 2 015 were paralytic) representing more than had been recorded for the whole of the preceding seven years and fifteen times as many as in 1951. According

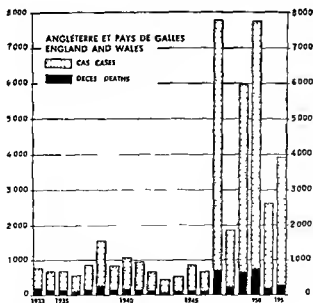
to age group the poliomyelitis cases reported in Denmark for the past three years numbered

	— 1	1-4	Age group 5-14	15-64	65 +	Total
1950						
Cases reported	52	450	692	377	1	1 572
/ of total	3.3	28.6	44.0	24.0	0.1	100
1951						
Cases reported	10	58	195	119	1	383
/ of total	2.6	15.1	50.9	31.1	0.3	100
1952						
Cases reported	165	1 675	2 264	1 591	16	5 711
/ of total	2.9	29.3	39.6	27.9	0.3	100

In the other Scandinavian countries—Finland Iceland Norway and Sweden—only 1 319 cases of poliomyelitis were recorded in 1952

There was a serious outbreak of the disease in the Federal Republic of Germany In the Netherlands the number of notifications in 1952 exceeded that for the five preceding years taken together but did not reach the maximum figure for the last thirty years—1 931 cases in 1943 In Belgium also the number of cases was greater than that for the previous five years combined

FIG 4 POLIOMYELITIS CASES AND DEATHS NOTIFIED IN ENGLAND AND WALES 1933-52



1944 to 1952 conf med cases only Deaths 1952 estimate for 4th quarter

Fig 4 shows the cases and deaths notified in England and Wales from 1933 to 1952. In comparing this with fig 3 (page 257), it will be noted that the differences between epidemic and interepidemic years have been much greater in England and Wales than in the USA.

Oceania

As far as can be judged from the statistics available, it seems that the incidence of poliomyelitis was high in New Zealand, the Hawaiian Islands, and the Gilbert and Ellice Islands in 1952. Lower than in 1951 in Australia, and nil in French Oceania, Netherlands New Guinea, New Caledonia, the New Hebrides, Papua, the Solomon Islands, where epidemics occurred in 1951, and other islands—Cook, Niue, Samoa, Tonga, Wallis, and Futuna.

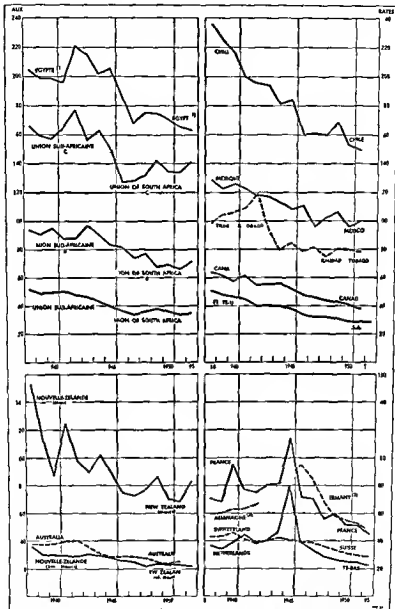
* * *

The *Report* draws attention to the fact that poliomyelitis, which was long thought to occur exclusively in the temperate zones, is of frequent occurrence in tropical countries. In 1952, veritable epidemics were observed in Mauritius, Cambodia, Thailand, Cuba, the Hawaiian Islands, and the Gilbert and Ellice Islands. While the figures for notifications may still be low in comparison with those in many countries in more temperate zones, they are revealing in view of the small number of physicians in many of these countries. They show that the danger of poliomyelitis, far from being restricted to certain countries, remains or is becoming a threat of world-wide significance.

INFANT MORTALITY

A series of tables and graphs in a recent number of the *Epidemiological and Vital Statistics Report*¹ shows the trend of infant mortality in 44 countries, territories, or cities for the years 1950, 1951, and 1952. The annual infant mortality rates for these years are compared with the median rates for the period 1928-38. The 1952 figures for deaths of live-born children under one year of age ranged from 2% to 16%, whereas data for the years before the Second World War showed a range of from 3% to 24%. In certain countries, infant mortality dropped more than 50%. The general decline noted in many areas may be attributed in varying degrees to increased efforts to protect the health of expectant mothers and of infants.

FIG 5 INFANT MORTALITY IN VARIOUS COUNTRIES 1938-52

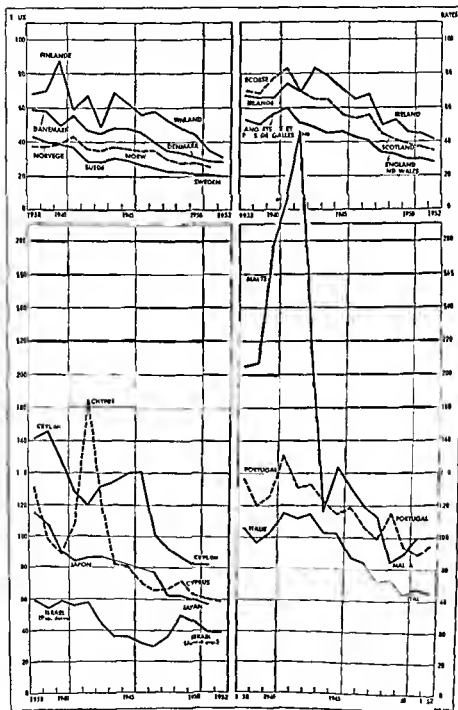


Deaths of infants less than one year old per 1,000 live births

- A — Union of South Africa white population
 B — Union of South Africa Asiatic population
 C — Union of South Africa coloured population
 (1) — Excludes of birth of infants who resided in 1952 about 67% of the total population

- (1) — Egypt localities with High Birth Rate
 (2) — Germany up to 1952 territory of 1938
 (3) — Federal Republic

FIG 6 INFANT MORTALITY IN VARIOUS COUNTRIES 1933-52



Deaths of infants less than one year old per 1 000 live births

Seasonal distribution of infant mortality is also illustrated in the tables in this report. The data show that in some countries—Egypt Italy Portugal and Spain for example—infant mortality rates are particularly high during the summer months. In Canada Denmark Finland France and the USA on the other hand the largest number of infant deaths occurs in winter. Switzerland has two peaks one in January the other in July. It is during the peak months that the decline in infant mortality as shown by comparison with pre war figures is most evident. For instance in Malta the rate for July 1951 was the highest for that year yet it was 72% below the median rate for the same month during the period 1930-8. In the USA the rate in January 1952 also showed a considerable drop in comparison with that of the median rate for the 1928-38 period. This decline during the peak months demonstrates progress realized in fighting two types of disease which take the greatest toll among infants respiratory diseases in winter and diseases of the digestive system (diarrhoea and enteritis) in summer.

The *Report* presents as well a table of neonatal mortality rates for certain countries. These figures show how precarious life is during the first few weeks. In 1952 for example in the seven countries for which figures on neonatal as well as infant mortality are available out of a hundred children who died during the first year 25 / to 47 % died during the first four weeks after birth.

In addition to tables the *Report* contains graphs which illustrate among other trends the effects of the Second World War on infant mortality rates in certain countries (see fig 5 and 6). It can be noted for example that Finland was the first country to show a rising curve in infant mortality (1939). In 1941 Europe was partially occupied or blockaded and there was an increase of infant mortality in Denmark England and Wales Ireland Norway and Scotland. By 1942 hostilities had spread to the Mediterranean and the curve of infant mortality took an upward turn in Cyprus Egypt and Malta. In 1944 the situation became particularly serious in France and in the Netherlands. A steady increase in infant mortality occurred in Germany reaching a peak in 1945. In contrast to this picture of mounting infant mortality in countries affected by the war the general decline continued without major interruption in countries farther removed from the scene of hostilities—Australia Canada New Zealand Sweden Switzerland and the USA.

The tables and graphs which comprise this report give not only an idea of trends in infant mortality but also of health in general in the countries studied. the infant mortality rate of a country is a barometer of a nation's health conditions reflecting as well its social and economic state.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Public Health Dentistry in the USA

J E de Wever DDS of Antwerp Belgium was granted a WHO fellowship for a year's study in public-health dentistry at the University of Michigan School of Public Health Ann Arbor Mich. USA. This year's study enabled him to obtain the degree of Master in Public Health and gave him an opportunity to observe public health practices in dentistry in the USA. A résumé of his observations concerning the latter follows.

Dental disease is one of the most prevalent human disorders. Its toll may be represented in terms of general health, personal appearance, social adjustments, financial burden to individuals and school and industrial absenteeism. In the USA Dr de Wever found a noteworthy recognition of the "potentialities [of dentistry] as a health agent, a sense of social responsibility" on the part of the dental profession and "a great variety of plans for closing the gap between dental needs and dental services".

General trends

In the past, dental care has consisted primarily of the filling, removal and replacement of teeth. In recent years, however, there has been a trend towards more of a public health approach to dentistry in the USA, with emphasis on preventive measures and on co-operative efforts of relevant professions and agencies to provide adequate dental services for the community. In particular, this changing attitude is reflected in the attention given to dentistry for children, which entails regular periodic dental examinations and treatment as required, in an expansion of group practice, which makes possible more efficient and less expensive service and greater specialization within the dental profession, and in increased use of auxiliary personnel, which frees the dentist for the more technical work and leaves certain other functions for properly trained assistants.

Specific programmes

Numerous studies on the prevention of dental caries by fluoridation of communal water supplies have been, or are being, carried out in the USA. As at 15 September 1952, nearly 8 500 000 residents of 427 communities were using domestic water supplies which were fluoridated, and an additional 299 communities intended to inaugurate this practice. A seven year study in New York State showed a considerable reduction (60%–65%) in the

prevalence of caries when the water supply of a town was fluoridated with 1.0 p.p.m. of fluoride

Another method for the prevention of caries is the topical application of a 2.0% solution of fluorides. This is a measure which can be carried out by dental hygienists who may apply the solution to the teeth of children as part of co-operative community programmes

The US Public Health Service is actively engaged in a programme for the prevention of dental caries which has three objectives: (1) to foster and to carry out basic research on the cause, prevention and control of dental caries; (2) to develop methods and means for effective application of prophylactic measures; and (3) to aid the States and their political subdivisions in the establishment and maintenance of adequate caries prevention programmes. The efficacy of the techniques and measures suggested by the results of research is tested by means of field surveys and follow up "reviews"

In an experiment conducted by the US Public Health Service, an attempt was made to determine the most effective means of carrying out a school dental health programme. It was found that the efficiency of the dentists who were caring for the children was improved when they worked in pairs and were aided by well trained assistants. The increase in the volume of operations performed amounted to up to 45% for some types of treatment. It was also observed that an economy of time resulted from frequent visits to the dentist, which permitted the teeth to be kept in repair. Dr de Wever, in evaluating this experiment, concluded that "a plan of continuous service coupled with proper regard for the prevention of dental diseases provides for an economic advantage and makes for a more efficient and effective dental profession"

Dental research

Research on subjects relevant to dentistry is constantly in progress in the USA. In addition to the numerous studies on the effects of fluorine and on other means of preventing caries, investigations are being carried out on subjects such as malocclusions and periodontal diseases.

Dental education

The trend in dental education in the USA seems to be away from emphasis on techniques and towards emphasis on the etiology, diagnosis and prevention of oral diseases relating all the basic sciences to clinical practice—a trend favouring the development of dentistry as a science rather than as a "mechanical art". This means that in undergraduate education more attention probably should be given to dentistry as a health service and more efforts should be made in teaching the prevention of disease. Concomitant with this change in emphasis in undergraduate education is an appreciation of the need for postgraduate study and for more specialization.

Summary

In summarizing his observations on public health dentistry in the USA, Dr de Wever wrote: "Dentistry has advanced and developed rapidly in a relatively short time. This success and development are due to the spirit of co-operation and the eagerness of the men in the profession to develop and improve educational programmes to train new, highly competent personnel and to provide effective services to the public. The dental profession has won the respect of the other professions and of the American public. Furthermore, it has become an important and useful health agent."

Notes and News

Venereal Disease Control in Iran

As part of the WHO aided venereal disease-control programme in Iran¹ a control and demonstration centre was inaugurated at Teheran in early July 1953. This centre will give training to doctors, nurses, laboratory technicians, and other personnel concerned with venereal-disease control. WHO has provided an international team—consisting of a chief medical adviser, a serologist, and a public health nurse—and certain equipment and supplies. In addition, three WHO fellowships have been awarded to Iranians to study various aspects of venereal disease control. The Government of Iran is supplying the premises for the centre and matching national team members.

New Chief for Refugee Health Work

Dr Louis Findlay of Edinburgh, Scotland, has been appointed by WHO as Chief of the Health Division of the United Nations Relief and Works Agency for Palestine Refugees in the Near East. He will direct all health services for Arab refugees in Lebanon, Syria, Jordan, and the Gaza area. Dr Findlay, whose last post was that of Medical Consultant to the United Nations Korean Reconstruction Agency, succeeds Dr J. S. Peterson, now Director of the Division of Organization of Public Health Services at WHO headquarters.

Dr Findlay obtained his medical degrees at the University of Aberdeen. He has had considerable experience in international health work, in which he has been active for ten years. He is familiar with health problems in the Eastern Mediterranean area, having been a physician with the British Red Cross Unit in Ethiopia and later Director of Health for the United Nations Relief and Rehabilitation Agency (UNRRA) Middle East Mission. He also served in Germany, where he was Chief Medical Officer for UNRRA in the US Zone and later Chief of the Department of Field Operations of the International Refugee Organization.

Tuberculosis Training Course Given in India

A six-week postgraduate course in tuberculosis was given to a group of 25 private physicians and medical officers at the WHO aided Patna Tuberculosis Centre in India. This course, organized by Dr F. Ivaldy, WHO Senior Adviser at the centre, included an intensive series of 57 lectures on various aspects of tuberculosis control and clinical and laboratory demonstrations covering a wide range of practical problems.

Yaws Control Programme in India Expanded

Large-scale yaws-control measures begun late in 1952 in Madhya Pradesh, India, have been extended to Hyderabad and Madras States. In Madhya Pradesh, as well as expansion is planned, in an effort to bring yaws under control in an area of approximately 50 000 square miles (129 500 km²).

¹ See *Chron. Wld Hlth Org.* 1953, 7, 25.

Since the first mass campaign against yaws was launched in November 1952 three mobile teams consisting of five persons each with a physician or sanitary inspector in charge have moved from village to village in a little-explored region carrying out examinations and giving treatment to cases and contacts as necessary. By 31 March 1953 nearly 90% of the population of more than 200 villages had been examined. In some villages more than half of the inhabitants were found to be suffering from yaws while in others only a few cases were discovered.

A considerable number of staff who will be working with the Hyderabad teams have already received special field training with the groups in Madhya Pradesh. Similar training will be given to staff recruited for the Madras teams.

Dr E. E. Kruizinga, WHO yaws specialist, is assisting the State Governments in this campaign. He estimates that if present efforts are maintained and the expanded programme is as effective as the drive so far concentrated in Madhya Pradesh, yaws can be brought under effective control within about three years.

This yaws-control programme is part of a five year plan for improving the status of tribal groups. The entire campaign is the responsibility of the respective State Governments but WHO is providing technical guidance and UNICEF penicillin and other essential supplies and equipment.

WHO Sends Emergency Aid to Greece

In August WHO approved an emergency aid programme for the victims of the earthquake in the Ionian Islands. This programme, which consisted of provision of supplies needed to prevent the outbreak of epidemic diseases and to improve health conditions, was worked out in consultation with the Greek authorities by Dr Duurt Rijkels of the Regional Office for Europe, who was sent to the stricken area at the request of the Greek Government.

Dr Rijkels reported that excellent work was being done by the Government of Greece to bring relief to the earthquake victims. Food supplies were organized and medical personnel of all categories was sent to deal with the situation.

WHO provided supplies for purifying water (one million Halason tablets, 1 000 kg of high test hypochlorite, 12 automatic hypochlorinators and 10 km of galvanized piping of various diameters), rat poison (a quantity sufficient for a three month campaign against an estimated 100 000 rats), tents for the medical teams working on the islands and tetanus prophylactics. These supplies are being distributed by Greek authorities who are keeping the Organization informed concerning developments on the islands.

BULLETIN OF THE WORLD HEALTH ORGANIZATION

The *Bulletin of the World Health Organization* is the principal scientific organ of WHO and is the successor to the *Bulletin mensuel de l'Office International d'Hygiène Publique* and the *Bulletin of the Health Organization of the League of Nations*. It contains original articles either in English or in French with summaries in both languages on scientific and public-health subjects of international significance, and bibliographical data.

Volume 9 number 1 of the *Bulletin* contains the following articles

Biological potency and its relation to therapeutic efficacy—*A. A. Miles & H. L. M. Perry*

The Second International Standard for Penicillin—*J. H. Humphrey, M. I. Mussett & H. L. M. Perry*

Enumeration of viable tubercle bacilli (BCG) by the roll tube method—*P. Agerholm Christensen, Mary Robinson & Margaret Widdicombe*

Inactivation of DDT deposits on mud surfaces—*E. G. Boudas, H. G. Downs & L. Navarro*

Plague studies 8 Clinical aspects—*R. Politzer*

Plague studies 9 Epidemiology—*R. Politzer*

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Supplements comprising works of too detailed a character for inclusion in the *Bulletin* itself are published from time to time



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

5-10 October	Expert Committee on Alcohol, Geneva
9-22 October	Regional Committee for the Americas, fifth session, Washington D C
12-17 October	First Conference of National Committees on Vital and Health Statistics London
19-29 October	Joint FAO/WHO Third Regional Nutritional Meeting for Latin America Caracas
19 October 7 November	Committee on International Quarantine first session, Geneva
20 October 13 November	Joint FAO/UNICEF/WHO Group Training Course on the Control of Milk Quality and Processing Rome
26-31 October	Expert Committee on Biological Standardization, seventh session Geneva
26-31 October	Symposium on Insect Control (Regional Office for Europe), Rome

FIRST WORLD CONFERENCE ON MEDICAL EDUCATION

The First World Conference on Medical Education which took place in London from 22 to 29 August 1953 was sponsored by the World Medical Association in collaboration with the World Health Organization the Council for International Organizations of Medical Sciences and the International Association of Universities. Approximately 600 participants from more than fifty countries gathered to discuss the many problems of undergraduate medical education to compare notes and exchange experience on how to adapt the teaching and training of medical students to the needs of a rapidly changing world. In the words of Sir Lionel Whitby President of the Conference "The world has now become so shrunken because of modern communications that we can no longer take a parochial view of our problems whether they be economical political social or above all medical since medicine mercifully knows no international boundaries and happily has the same ideals in all countries. Notwithstanding the same medical ideals in all countries it was also realized that there is no universal or uniform answer to the medical educational problems of all countries. In his welcome address Dr M G Candau Director General of the World Health Organization said

"We in the WHO realize that one of the best ways to help countries improve their health services is to assist them in forming a highly competent body of professional health workers among whom the members of the medical profession naturally occupy a leading and undoubtedly responsible position. The mere importation of such health workers is no more than a short term and partial solution of the problem. While the physician must acquire the tools which modern science provides he must also be prepared to work within the cultural and sociological framework of the country which needs his services. In the end every country must develop its own medical education facilities adapting the patterns and experience of others to its own needs and not merely copying them."

After the initial plenary session the Conference dealt with the following problems in four different sections each presided over by a Conference Vice President

Section A Requirements for entry into medical schools—Dr Victor Johnson Mayo Foundation USA

Section B Aims and content of the medical curriculum—Sir A L Mudaliar Vice Chancellor of the University of Madras India

Section C Techniques and methods of medical education—Dr A Hurtado San Marcos University Lima Peru

Section D Preventive and social medicine—Professor A Stampar,¹
University of Zagreb Yugoslavia

The question as to whether and how medical students should be selected gave rise to illuminating controversies, with some advocating certain procedures with as much conviction as others were ready to oppose them. The value of aptitude tests and personal interviews was seriously challenged.

There was practically consensus of opinion on the necessity of measures to prevent the undergraduate curriculum from becoming too overloaded by a continuous addition of new specialties and the opinion seemed to prevail that the medical graduate should have acquired in the course of his undergraduate training a thorough knowledge of the fundamental principles of medicine and sufficient factual knowledge and training to enable him to continue his (postgraduate) training with equal ease either in the direction of general medical practice or in any of the medical specialties.

The particular needs of undergraduates in the underdeveloped countries were stressed by Dr Edward Grzegorzewski, Director of the Division of Education and Training Services of WHO. He called attention to the fact that

“the role of practically any doctor in a less-developed community is not an exclusively technical medical one. By virtue of his education, of his social position, and his individual approach to persons and problems, he is bound to become one of the few cultural leaders of the community. In half the world, whether he wants it or not, he has to assume some functions of leadership. He should therefore be prepared for this role of leadership during his studies. He must receive this preparation in his medical school by example by orientation by the spirit of the school and its leaders.”

Some very noteworthy experiments in medical education were reported. For example, at the University of Birmingham, fine results have been attained by combining the courses in anatomy and physiology, with the Chairs of both anatomy and physiology participating in the teaching of the course. Other ideas along similar lines, aiming at various departments co-operating in the teaching of particular courses, may eventually provide one of the answers to the general demand for better co-ordination and integration in undergraduate teaching, at the same time keeping the length of the undergraduate teaching period within reasonable limits.

Considerable interest was shown in the use of various teaching techniques. The value of having medical students witness complicated surgical operations, for instance, was seriously questioned. A great deal was said in favour of using teaching films in almost all subjects, it being understood that they should be judiciously selected and devised along sound educational lines.

Throughout all the discussions there was an obvious awareness of the need to pay particular attention to the preventive and social aspects of

¹ Professor Stampar replaced Professor Reé Sand, whose illness prevented him from attending the Conference and news of whose death during the week of the Conference was received with much sorrow. (See page 85 of this number of the *Ch. o. J. e.*)

medicine in the teaching of undergraduates. These trends were naturally particularly emphasized in the section dealing specifically with preventive and social medicine. Whereas the need for such reorientation was unchallenged, the practical steps to be taken by the medical schools towards that goal were less clearly defined. There are considerable differences among countries and schools within countries as regards the teaching of preventive and social medicine. However as Dr Grzegorzewski pointed out "The diversity and the changing content of the curriculum in the subject of social and preventive medicine is quite a natural phenomenon because it should and does reflect the changing role of various pathogenic and other factors as well as the evolution of the biological and social environment."

The First World Conference on Medical Education was a most encouraging experience and its influence will no doubt be felt in many schools and countries in years to come. The main trends of thought of this Conference were clearly in line with the ideas expressed in the reports of the WHO Expert Committee on Professional and Technical Education.* It is hoped that continued co-operation in the future between international governmental and non governmental organizations in the field of medical education will yield further beneficial results.

WHO actively participated in drafting the programme of the Conference and two of the Vice Presidents to preside over one Section each were chosen from members of the WHO Expert Advisory Panel on Professional and Technical Education. Sir Arlot L. Mudaliar of Madras, India, and the late Professor Rene Sand of Brussels, Belgium. Provisions were also made for two more members of the Panel to attend the Conference in the capacity of consultants. Professor Dr A. Stampar of Zagreb, Yugoslavia, and Professor Min Sein, Dean of the Medical Faculty of the University of Rangoon, Burma.

* See *Wld Hlth O s is h R p St* 1950 22 a d 1953 69

Vital Statistics and Causes of Death

General vital statistics of selected countries for 1951, 1952, and in some cases for the early months of 1953 are presented in tabular form in a recent issue of the *Epidemiological and Vital Statistics Report*†. The tables include natality rates and general mortality rates for more than forty countries or territories for these years and where possible median rates for the period 1928-38 are also given. These are

followed by tables on causes of death listed according to the Abridged International Statistical Classifications of 1948 and 1938: first actual numbers according to sex and secondly rates also by sex. Mortality from certain causes—actual numbers and rates by sex—according to the International Detailed List of 1948 are also presented as well as cases and deaths from relapsing fever.

WORLD HEALTH AND ECONOMIC DEVELOPMENT *

Dr Pierre DOROLLE

Deputy Director-General of the World Health Organization

How does the World Health Organization contribute to economic development ? Let me introduce my answer to this question by quoting the definition of the word 'health' as it has been agreed upon by the 83 countries that have accepted the WHO Constitution "Health", according to that Constitution is a state of complete physical mental and social well being and not merely the absence of disease or infirmity From this definition it is clear that the World Health Organization could never be satisfied just to help countries in the fight against disease it must also contribute to the struggle for health

The acceptance of this definition of the word 'health' by more than 80 governments throughout the world clearly means a considerable widening of the traditional scope of public health work WHO's definition carries the implication that public health on the one hand and economic progress on the other, are closely related to one another It says in effect that the state of a community's health is intimately bound up with the level of its social and economic development

As far back as the beginning of 1949 the Executive Board of the World Health Organization transmitted to the World Health Assembly a programme and budget including a ten million dollar supplemental programme which was in fact, a technical assistance programme This programme was based on co-operative projects of advisory and demonstration services with special reference to underdeveloped and undeveloped areas Before WHO could start implementing this programme the United Nations established the Technical Assistance programme, and our Assembly then decided to join in the new common enterprise

Very many of WHO's projects are specifically designed to help break the age old vicious circle of 'poverty breeds sickness sickness breeds more poverty' For the simple fact is that without radical improvement in health conditions all our grandiose schemes to raise agricultural and industrial productivity in the underdeveloped countries will be dangerously handicapped if not doomed to certain failure

It is well known that the agricultural yield of many large and potentially rich farming areas in many parts of the world is held to a pitiful minimum by a whole gamut of preventable diseases which sap the strength of the farmers

When the health of the farmer is improved his productive capacity rises sharply. The result is that increased income from the land makes possible greater investment both in health work and in agricultural improvement.

This also has important implications for industrial development. Large scale industrialization would appear to have as a prerequisite the presence of a relatively healthy population. If the people of an area are not on the whole fairly healthy then migration to the cities tends, with the growth of industry, to leave only the dregs of a partially sick and overworked population to till the fields, and the vicious circle of "sickness breeds poverty breeds more sickness" will inevitably recommence.

Thanks to the research carried out during the past few years we are today in possession of a variety of evidence tending to show the crippling effects of ill health on the development of society. In fact many large scale health campaigns which have been carefully analysed from this point of view yield concrete proof of the economic value of preventive medicine. These investigations show that sickness imposes an enormous burden on our economic structure. But sickness is not alone in robbing us of much of our wealth: premature death is also one of the biggest thieves. It is quite clear that if an individual dies at the age of 15 years there is a net economic loss to society because that individual has not yet begun to contribute his share to the productive processes on which the maintenance and growth of society depend. A life lived to the age of 40 means, on the other hand, a potential economic gain, and if death does not come until 65 years there is a net economic gain about twice as great as in the case of the man or woman who dies at 40. Nearly two thirds of the population of the world have a life-expectancy of only 30 years, as compared with the average of 63 years for northwestern Europe, North America, Australia and New Zealand.

These facts alone show how important to the world's economic well-being are the efforts which governments, with the assistance of the World Health Organization, are directing towards the saving of human life, towards raising the life expectancy of as many of their people as possible.

Let us turn now to a few examples which will show the toll exacted from our economic resources by preventable sickness. The economic value of antimalaria projects, for instance, can best be gauged by what has happened during the past several years in Greece and India.

In Greece in 1943 there were 2 000 000 malaria sufferers. The country was at that time buying one fifth of the entire world output of quinine at a cost of approximately \$1 300 000. But by 1949—just six years later—malaria control measures, costing a million dollars less than the price that Greece once paid for quinine alone, had cut down the sickness figure to 50 000. This was about one fortieth the number of cases there had been in 1943, and the effect on the country's economy was to increase its total manpower by the equivalent of 150 000 persons per year.

Take another example—this one from the Farai and Bhabar areas of

northern India. Here, modern malaria control measures on a wide scale were begun a little over three years ago. Already the production of food grains is up by 25%, while the value of the land has nearly doubled.

Or take Sardinia, where malaria has for many years been the only barrier to rich agricultural development. A vigorous control campaign was launched in 1946. Three years later, in 1949, there was not a single case of primary malaria to be found on the entire island. And today a plan is under way in Italy for settling in Sardinia one million citizens from the overcrowded mainland.

Malaria is undoubtedly the major barrier in the way of increased agricultural productivity in most warm countries. But similar figures could also be given to illustrate the disastrous impact of other preventable diseases on economic development.

According to an estimate made by Sir Andrew Balfour some years ago there were at the time about 45 million workers in India suffering from hookworm disease. The annual earnings of these workers amounted to the equivalent of around one billion dollars. An intensive control campaign in one district was estimated to have increased labour efficiency by over 25%. Even if this figure were placed at only 10%, the application of a similar programme to the whole of India would have increased production rates by almost a hundred million dollars annually.

In Latin America where the Pan American Sanitary Bureau has been leading the international fight against disease, there have been some remarkable economic advances made in regions where urban yellow fever has been brought under control.

Another disease, prevalent in most of the underdeveloped areas of three continents, under tropical conditions is yaws. It is a crippling disease caused by a treponeme very similar to the treponeme that causes syphilis, but its transmission is not venereal, and it affects large groups of the population in rural areas. It responds to treatment by penicillin, in one single injection of an appropriate dose. WHO with the aid of UNICEF, and through both its regular and its technical assistance programmes has helped in the control of yaws in several countries, notably in Haiti, Indonesia, the Philippines and Thailand.

Operations in Haiti for instance started in 1950. It is now possible to test how far the results of earlier work in this project have been permanent and to compare the effectiveness of different methods of work. In an area where the treatment was given by a mobile clinic it was found recently in a sample examination of nearly 13,000 persons that only 100 were infected with yaws. In another area, where treatment had been given by house to house visiting at no greater cost in money or personnel no cases were found among the 2,500 persons examined. It is estimated that to date the control programme has meant the return to work of about one hundred thousand incapacitated persons and has thus increased the national income.

by several million dollars a year. In Haiti, Indonesia, the Philippines and Thailand 1 575 000 persons have been treated. At a relatively low cost the result has been an immense increase in national manpower and income.

Another example is bilharziasis, a disabling disease caused by a parasite generally conveyed to man by certain species of water snail. These snails can live and multiply in irrigation ditches. Attempts to increase cultivation and production by irrigating new land may therefore spread disease and in capacity so that the second state is worse than the first—if proper precautions are not taken.

There is, for example, the Jezireh area of Syria, which was formerly a main food producing area of Asia Minor. Disease and the choking of irrigation channels gradually depopulated the area. The tendency is now being reversed and the Government is actively resettling the region. There is no doubt of the importance to the economy of Syria of the rehabilitation of this region. Bilharziasis is present there and, with help from Technical Assistance, work is being started to make sure that this development is not nullified by the spread of bilharziasis.

A pilot project against bilharziasis is also in progress on the island of Leyte in the Philippines. A control scheme in Egypt, particularly to study the effectiveness of new chemicals that have been developed to kill the snails with the minimum of risk to other animals, is under way and surveys are proceeding in Africa and the Near East to determine the distribution and degree of bilharzia infection. In the meantime research continues to find more effective ways of controlling the snails that carry the disease.

The aim of such activities is directly related to economic development. This correlation works in both ways. On the one hand, the control of bilharziasis increases the manpower in areas where the disease has, in the past, disabled a high percentage of the rural population. On the other hand, in countries where large irrigation schemes are planned in view of increasing agricultural production, these irrigation schemes may introduce bilharziasis, which could, unless preventive measures are applied in time, impair the economic benefit resulting from the irrigation scheme.

Turning now to diseases which unfortunately are not restricted to certain climatic conditions but are practically universal, nobody needs to be convinced of the economic losses caused, for example, by tuberculosis or the venereal infections in both agricultural and industrial communities of the most developed countries.

The examples I have given show, I believe, how important is the role which health work can play in any scheme aiming at the improvement of general living standards. The various types of aid extended to countries by WHO make it easier for them to control malaria, tuberculosis, the treponemal infections and a host of other communicable diseases.

True to its understanding of health in the broader sense, the World Health Organization is also engaged in many technical assistance projects.

which, more than merely attacking disease are designed to bring to the underdeveloped countries a knowledge of modern methods used in the promotion of positive health. These concern especially such subjects as mother and child health, environmental sanitation, nutrition, mental health, public health nursing and health education of the public. All of them are conspicuous among the fields in which 74 governments have requested Technical Assistance. WHO has given the advice of 472 experts and awarded 555 fellowships.

The efforts of WHO are focused on this point to train adequate personnel by helping national institutions by assisting countries in establishing demonstration and training centres by granting scholarships and fellowships. This applies to all kinds of health workers. For there is a need in the great majority of countries not only for doctors but also—and even more so—for the type of personnel usually called auxiliary, but which I should prefer to call fundamental—the nurses, the laboratory technicians, the health visitors etc.

Nursing training is a major concern of our Organization. WHO is assisting six Governments (Cambodia, Indonesia, Iran, Lebanon, Syria, and Thailand) in the establishment of nursing departments within the national health administrations and is providing fellowships for national nurses to prepare for the direction of these new departments. At the same time WHO is providing international nursing advisers to assist the national health administrations with this task. New legislation for the protection of nurses is being prepared in Lebanon, Syria and Turkey. The revision of existing legislation is under review in a number of other countries. With the assistance of WHO, new schools of nursing for women of secondary school education are being established in Ceylon, India, Malaya, Syria and Turkey.

I have still to mention what may well be regarded as the most typical feature of WHO's Technical Assistance programme—the health demonstration areas. These projects—and there are more and more of them being launched—provide for the combined use of a wide variety of techniques and specialities which may be required in solving the critical health problems of a given area.

The health demonstration areas are symbolical of the very concepts on which WHO's work is based, both in its regular programme and in the Technical Assistance programme. The term demonstration points to the essential nature of its task. Its functions are chiefly advisory. WHO was created to help countries to help themselves. It is a sort of international co-operative for mutual aid in health improvement. The World Health Organization can do no more—and was never intended to do more—than to mobilize all internationally available means and to help individual countries to learn how to employ these means in order to cope with the health problems they face in their varying stages of development. Once this

demonstration phase is completed the health workers of the country being assisted will carry on with the job

The most vitally important lesson which WHO has learned and is teaching is that effective health work can be carried out only within the framework of a sound and orderly system of public health administration. This explains the relatively large number of projects through which WHO is attempting to contribute to the establishment or strengthening of modern health administrations. This also confirms the importance given by WHO to projects for the education and training of local health workers. The World Health Organization fully recognizes that without the solid foundation provided by strong national health administrations or without the required numbers of adequately trained staff all health work—however spectacular it may be in the early stage—will fail ultimately to raise health levels and so may easily lead to a slowing down rather than to the desired speeding up of general economic and social development.

Finally the health demonstration areas or projects are in my opinion among the most promising examples of the type of co-operation which must be obtained—and maintained—among the United Nations and all its specialized agencies if our programmes of assistance to the economically underprivileged countries are to succeed. Whatever our temperament, previous experience or personal likes and dislikes may be we can no longer afford the luxury of working independently in our respective fields without considering the overall task which is the great challenge of our age to lay the foundations for a world in which all people will share in the great benefits which can be derived from our present and growing understanding of the forces of Nature.

Nothing will be achieved by restoring good health to millions of human beings if due to lack of capital investment they only swell the ranks of the unemployed and add to the economic burden which their communities already bear. Conversely no amount of money will be able to stimulate agricultural and industrial development effectively if the men and women for whom new opportunities are thus created continue to be plagued by physical and mental ills. And finally unless endowed with the intellectual and moral values which education and culture can bring even a healthy and economically productive people cannot help to build a peaceful world.

I believe that in the United Nations Expanded Programme of Technical Assistance lies mankind's greatest hope for the future. I believe this to be true precisely because this programme provides for a concerted frontal attack by the United Nations and all its specialized agencies on the problems of poverty, hunger, ignorance and disease. This is the real battle for peace.

COLOMBIAN CAMPAIGN AGAINST MALARIA AND YELLOW FEVER

In terms of people protected against malaria, an insect-control campaign organized by the Government of Colombia in 1952 has real meaning: eleven months after operations began, it was recorded that protection had been given to 1,225,000 persons. This achievement is the result of a co-operative effort of the Government, UNICEF, and WHO. The Government is meeting 80% of the total cost of the project, UNICEF is providing supplies and equipment, and WHO is contributing specialized personnel.

The Colombian insect control campaign forms part of a developing programme of insect control in many countries of Central and South America, aimed at eliminating malaria as a major health problem and at ridding the continent of *Aedes aegypti*, vector of yellow fever.

Malaria represents an obstacle to the economic development of Colombia. It is estimated that 700 000 persons suffer from this disease annually. A survey of the problem made in recent years by the Division of Malaria of the Ministry of Health revealed that the malarious areas range from sea level to an altitude of 1,700 m. and are inhabited by a population of 6,800 000. Because of this disease, vast and naturally rich areas in the tropical and sub-tropical regions have been depopulated. The Government had carried out limited malaria-control campaigns, but it was unable to undertake efforts of the scale of the present project until international aid became available.

Attention was first centred chiefly on the Departments of Atlántico, Magdalena, and Bolívar, along the north-east coast of the country—a region of 117,000 km² with a population of two million. Between April 1952 and February 1953, 205 000 houses, in 1,777 communities, were sprayed with DDT. Among the localities where no *Aedes aegypti* were found after the spraying had been done were the two most important ports of Colombia: Barranquilla and Cartagena. Constant vigilance is required to assure the results already obtained. Re-spraying and surveys must be carried out in the areas already covered while the spraying is extended to new localities. According to the progress reports, operations are proceeding on schedule and results attained so far are good.

WHO has given technical advice on this project from its earliest planning stage. The Brazilian National Yellow Fever Services seconded to the Organization the services of Dr. Vincent Pinto Musa, who is helping to organize the campaign: two sanitary inspectors from the Service are also on loan to WHO for this work. Thus the skills and experience gained in one country are utilized to aid another: in this instance the link is close, since Brazil has successfully achieved under similar conditions the goal now sought by Colombia.

The task of organizing the campaign is considerable: at one time there may be as many as 29 spraying teams at work, each with its contingent of

labourers a crew leader, equipment and supplies and transport suitable for a jungle country. Technical control is maintained through surveys and laboratory observations.

WHO has agreed to continue to furnish technical personnel through 1954 to advise the Government on the planned expansion of the campaign and to train Colombian technicians who will be responsible for directing the work once international aid has been withdrawn.

Insect control in Colombia is essential for the development of the country. It will make more manpower available and will open up new areas for agricultural or industrial development schemes. Other international agencies are also giving assistance. FAO is advising the Government on plans for agricultural production and has recommended land surveys as a preliminary step to the colonization of large uncultivated areas. Similarly the United Nations Technical Assistance Administration and ILO are providing advice on problems relative to the industrialization of the country. All these developments are dependent upon healthy surroundings which in turn are partly dependent upon the eradication of the insect vectors of malaria and yellow fever.

Maternal Care and Mental Health*

Dr Bowlby's report originally published by WHO in March 1951¹ has proved to be one of the most widely acclaimed numbers to have appeared so far in the Monograph Series. With two editions and seven printings in English and two printings in French the total number of copies published now exceeds 15 000.

The report has been extensively reviewed by both the specialized and the general press. That this book has been considered as an important and pertinent contribution to the solution of one of the world's gravest problems can be deduced from a comment published in the *Medical Officer*: "without doubt Bowlby's monograph (written for WHO) is one of the most remarkable books of our time."

Its value to the specialist has been noted by a reviewer in the *American Journal of Psychiatry*: "This is a report that I feel should be in the office of every child welfare agency, pediatrician and child guidance clinic. The lay press has also paid tribute to it: in the words of the *Economist* the report deserves to be as widely read and discussed as the recommendations of the Curtis Committee."

Børn uden hjem, a Danish language edition of the monograph has been issued by Munksgaard of Copenhagen and Pelican Books have recently published an abridged version of the original report under the title *Child care and the growth of love*.

Maternal care and mental health. A report by Dr John Bowlby for the United Nations Programme of Child Welfare. From the Child Care Study. 2d ed. Geneva, 1952. (World Health Organization Monograph Series No. 2.) 194 p. price 12.6 \$—50 Sw f 10.— (1 lb. 10. \$2.00 Sw f 8.— (paper bound).

See *Chron. Wild Health* 1951 5 83.

MATERNAL AND CHILD HEALTH DEMONSTRATION IN TAIWAN

In 1952, the Government of China (Taiwan), with the aid of WHO and UNICEF, undertook to demonstrate modern methods of maternal and child care within the economic and social resources of China (Taiwan) and in harmony with its cultural background, as an integral part of the national health services. The Government selected the region of Taichung (population 665 000) as a demonstration area which was to include a 150-bed provincial hospital, 2 health centres, and 10 health stations. UNICEF agreed to provide equipment and supplies for both the hospital and the health centres and stations and made available \$34,000 for that purpose for the first year. WHO contributed a professional team of three: a physician from the USA, a British nurse midwife, and a Canadian public health nurse. The Government of Taiwan provided a matching team of additional personnel for the expansion of health services: trainees, buildings and equipment, and other operational items estimated to cost \$101,000.

Emphasis in this demonstration is on teaching the basic principles of midwifery and nursing techniques and on health education of the public. Home visits have proved to be a valuable means of health education since a visit to one home is nearly always an occasion for a gathering of neighbours thus making a group demonstration possible. WHO health education activities are also forming a part of other national and bilateral technical assistance work. Guidance in the preparation of visual aids has been given to WHO team members by a UNESCO consultant assigned to advise the Ministry of Health of Taiwan.

The Taichung City Health Centre has become the main unit for demonstrating midwifery. By early 1953 six carefully chosen nurse midwife trainees had finished a four month course, and another six had been selected to begin training. The trainees are expected to serve in their turn as teachers and supervisors to make up a network of trained personnel throughout the demonstration area. The nurses have initiated mother and child craft classes in which volunteer aid is playing an important part.

The demonstration is also being used for the field training of student nurses from the University Hospital in Taipei who come in groups for a month of training. WHO is assisting the nursing school of this hospital through the provision of four nurse educators.

The international team working with national personnel is endeavouring to get under way a programme which can be continued once international aid is withdrawn—probably at the end of 1954.

EXCHANGE OF PERSONNEL FOR THE ADVANCEMENT OF HEALTH

One of the more interesting features of the Technical Assistance programme is that it is giving the nations who are participating in it an opportunity to help each other through sharing technical personnel and training facilities. It is particularly noteworthy that many of the countries who are recipients of Technical Assistance are also contributors.

In Latin America Brazil which is receiving assistance has medical specialists and technicians trained in the national health service working as WHO consultants in other countries of the Americas. In August 1953 twelve Brazilians were working in the Region among them malariologists and sanitarians engaged in malaria control in Peru and the Dominican Republic and a public health engineer serving in Panama. Similarly a Costa Rican venereologist was aiding the Government of Paraguay in venereal disease control activities.

Egyptian personnel are serving in several countries of the Eastern Mediterranean Region. For example an Egyptian malariologist is working in Syria and a team of two doctors and a nurse are demonstrating new techniques and are training personnel in a Saudi Arabian venereal disease control project.

The Philippines which are among the recipients of Technical Assistance in the Western Pacific Region are providing four specialists for activities in other countries of the Region. A public health engineer is working in malaria control in Taiwan and a nurse instructor is participating in a nursing education project in the same country. A third Filipino specialist is Professor of Applied Physiology at the University of Malaya in Singapore and a fourth is serving in a venereal disease-control demonstration in Burma. Two Chinese specialists are taking part in Technical Assistance activities outside their own country one working in malaria control in Ceylon and the other in yaws control in Indonesia.

European countries which are receiving Technical Assistance are also contributing personnel for work in other countries. A Spanish entomologist is a member of a WHO malaria team in Sarawak. From Finland are a physician working in maternal and child health in Afghanistan, an X ray technician serving in tuberculosis control in India and a nursing instructor who has just finished an assignment in North Borneo.

South East Asian countries too are sharing technical personnel. A WHO consultant from Ceylon is aiding in malaria control in Indonesia and another specialist from the same country is working in a WHO aided maternal and child health programme in Thailand. Ten consultants of

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Necrology

RENÉ SAND

Dr René Sand a pioneer in social medicine and one of those who participated in the founding of WHO and aided its development died on 23 August 1953

Dr Sand was born in 1877 Following his graduation from the University of Brussels he soon became interested in occupational hygiene In 1907 he published an important work entitled *La simulation et l'interprétation des accidents du travail*

In 1912 Dr Sand founded the Belgian Social Medicine Association After the First World War he was instrumental in the organization of the International Conferences of Social Work For some time he taught social medicine in Santiago Chile Later he toured the world during a period of 12 years as Secretary General of the League of Red Cross Societies

In 1929 he founded the International Hospital Association From 1936 to 1940 he was Secretary General of the Belgian Ministry of Health In 1939 he founded the Belgian Institute of Hygiene and Social Medicine in which he organized a library devoted to these subjects From 1934 to 1945 he was an active member of the Health Committee of the League of Nations

During the Second World War he remained faithful to his ideal and took an active part in semi clandestine meetings concerned with social medicine

In 1946 he presided over the meetings of the Technical Preparatory Committee appointed by the United Nations Economic and Social Council to study propositions concerning international action and organization in the field of public health In the same year he was appointed by the Belgian Government to serve as a delegate at the Health Conference held by the United Nations in New York to draw up the Constitution of the World Health Organization

From 1946 on Dr Sand participated in many international meetings among them the Special International Conference (Scheveningen 1947) to consider urgent problems of war devastated regions the Fourth International Conference of Social Work (Atlantic City and New York 1948) and the Fifth International Conference of Social Work (Paris 1950) of which he was Honorary President

From 1945 to 1952 Dr Sand occupied the Chair of Social Medicine created in the former year at the University of Brussels He was one of those who was concerned with the reorientation of medical education according to the changes in the role of the doctor in society In addition to his own teaching in the medical faculty at Brussels he stimulated modern ideas about medical education in the meetings of the WHO Expert Com

Indian nationality are working in Technical Assistance activities in various countries among them a venereal disease specialist in Afghanistan a malariologist in the Philippines and another malariologist in Iraq

Of the 34 countries which are offering training facilities for Fellows selected in connexion with Technical Assistance, many are also those from which WHO field personnel are drawn Brazil, Cambodia China Egypt Finland India Morocco, Peru, Thailand Turkey Uruguay and Venezuela have contributed, and are generally still contributing to the programme by placing Fellows in their health institutions, or by making available the requisite facilities as host governments for regional or inter regional training courses and demonstrations Some of the institutes offering training in these countries have previously received assistance from WHO or other international organizations or foundations

Regional training courses have been found the best means of meeting the need for training professional and subprofessional workers of various kinds Ceylon Egypt, and Japan have provided facilities for training courses in vital and health statistics organized with the help of the United Nations and WHO, FAO and WHO jointly assisted the Indian Government in a training course in nutrition in 1951, and in 1952 a nursing instructors course was organized by China (Taiwan) with WHO assistance.

WHO Needs Specialized Personnel

WHO is in almost constant need of specialized personnel for temporary assignments in connexion with field projects Public health training or experience is especially required for such posts Further information concerning the types of personnel needed will be found inside the back cover of this number of the *Chronicle*

Reports of Expert Groups

THE COMMUNITY MENTAL HOSPITAL

The third report of the WHO Expert Committee on Mental Health¹ is devoted to the subject of the community mental hospital. It is pointed out that it is difficult to formulate general recommendations for the provision of psychiatric care since little exact information on the extent of psychiatric morbidity in various countries is obtainable. The report emphasizes the necessity of encouraging all countries beginning to develop their mental health services to attempt to carry out if necessary with the assistance of WHO surveys of sample communities in order to arrive at a working estimate of the prevalence of psychiatric morbidity.

Inpatient Services

In dealing with the essential mental hospital accommodation the report states that while it is impossible to lay down hard and fast rules concerning the number of beds to be provided for patients who by virtue of their behaviour and their illness must be segregated a country however under developed which has less than one psychiatric bed per 10 000 of the population will be unable to provide even the crudest level of emergency psychiatric inpatient care.

Much attention is paid in the report to the atmosphere in the community mental hospital as an important factor in the efficacy of treatment. "Too many psychiatric hospitals it is noted give the impression of being an uneasy compromise between a general hospital and a prison. The role of the psychiatric hospital is quite different from that of either of these institutions it should be a kind of therapeutic community. Among the elements conducive to the creation of the needed atmosphere are the preservation of the patient's individuality the assumption that patients are trustworthy and capable of undertaking responsibility and displaying initiative and the encouragement of good social behaviour. "The life within the hospital should as far as possible be modelled on life within the community in which it is set."

Architecturally the mental hospital often shows the same influence of general hospital or prison. If it is to be a therapeutic community it must be designed and planned as such. If it is to support and recreate the sense of individuality in patients it must not dwarf them by its size and by herding them together in thousands in giant monoblock buildings. Preferably the hospital should be composed of groups of small buildings spaced out in a natural area of woods gardens and farm lands. Each unit should be

mittee on Professional and Technical Education, of which he was Chairman at its first meeting. He was an active member of the Expert Advisory Panel on the same subject and contributed to the discussions at the second session of the committee in 1952. During the last year of his life, he agreed to direct a special study, for which he was eminently qualified on the functions and training of health and welfare visitors in some European countries. This study was just about completed when death struck him.

In addition to delivering numerous lectures in every country in Europe and writing hundreds of articles on questions more or less related to social medicine, Dr Sand was the author of several major works: *L'organisation industrielle, la médecine sociale et l'éducation civique en Angleterre et aux Etats Unis*, *Réforme du service médical de la bienfaisance*, *Le service social à travers le monde*, *assistance prévoyance hygiène*, *La Belgique sociale*, *L'économie humaine par la médecine sociale*, *Un programme de santé pour la Belgique* and most recently, *The advance to social medicine (Vers la médecine sociale)*, and *La médecine sociale*.

At the Fourth World Health Assembly in 1951, the Léon Bernard Foundation Prize was awarded to Dr Sand for his work in social medicine that essential factor in human economy which Dr Sand himself called the new humanism. In accepting this award he concluded his address with an expression of his creed concerning the role of medicine in society.

'Neither students nor practitioners fully realize that as Hippocrates already said long ago, in medicine the function of protecting and developing health must rank even above that of restoring it when it is impaired.

If the nobility of medicine resides in the selflessness of the physician the hygienist and their assistants, its greatness resides in the scope of the services which they render and from this point of view, the medicine which preserves health has a considerably greater influence for good than the medicine which restores health.¹

The Secretary General of the Ministry of Health of Belgium, Professeur M. De Laet said of Dr Sand, "Over all [his] work reigns the beneficent atmosphere which gives life strength and balance and which comes with social conscience that developed form of the spirit of charity, that turn of heart and of reason which enables man to live in harmony with his milieu." In the words of Dr M. Mackenzie, Chairman of the WHO Executive Board, "René Sand was a great man and one who was deeply loved by many colleagues in every country of the world."

¹ *Chron. Wld Hlth Org.* 1951, 5, 196.

ways and habits of the community which are relevant to the solution of these problems. Close liaison between the psychiatric staff of the mental hospital and the other physicians in the community is urged in order to bring the former into contact with the psychoneuroses seen by the family doctor as well as with the psychoses with which they deal in the mental hospital.

Such activities as the above should lead towards the setting up of outpatient services. The report describes the way in which these services might develop and lists some of the types of cases which might be treated therein. Also described is the so called day hospital, a recently developed means of treating psychiatric patients which it is felt every community mental hospital should consider establishing.

MENTAL HEALTH ASPECTS OF ADOPTION

The mental health aspects of adoption are the subject of a report on a joint UN/WHO meeting of experts convened to consider this problem¹. The report aims to stimulate improvement of present adoption procedures—particularly those in Western society—through calling attention to principles of mental health which are fundamental to good adoption practice.

It is stated at the outset that adoption is regarded as the most complete means whereby family relationships and family life are restored to a child in need of a family, its main purpose being "to ensure the well being of the child and the satisfaction of the desire of childless people for children being a secondary consideration. The question then becomes one of providing in adoption situation which promotes the wholesome development of the child by assuring him sustained parental care" and "the security of a family setting".

Some of the factors to be considered in evaluating the ability of the adopting home and the prospective adopting parents to meet the child's needs are (1) the quality of parental feeling in the adopting parents, (2) the quality of the marital relationship, (3) the age of the adopting parents and of the child, and (4) the presence in the adopting family of other children. With regard to the first factor, reasons for wishing to adopt a child may give an indication of the quality of parental feeling. The marital relationship which will provide the best atmosphere for the adopted child is a sound one of mutual love and respect. As for the age of the adopting parents, normality of family life is furthered when their age is about that of natural parents for the child. Insistence that the adopting parents must be older than, for example, 35, 40, or 50 years is not in the best interests of the

planned for a group of about 25 30 patients and it should be assured that the majority of them will sleep, eat and work in comparatively small groups of up to ten persons

Within the therapeutic community, activity is of fundamental importance. This activity should cover a range of occupational and psychotherapeutic group activities in some of which each patient should participate. The formation of patients' clubs is valuable in creating the proper therapeutic atmosphere. Such clubs not only may serve as means of diversion but also may give rein to feelings of dissatisfaction caused by certain deficiencies in the hospital. For example, groups may be formed to negotiate with the kitchen or general services and may thus express aggressive tendencies which can be directed towards useful activity. Patients' clubs also have a function in welcoming the new patient and helping to initiate him into the conditions of hospital life.

Home care institutions for aged patients, special hospitals, and psychiatric wards in general hospitals are considered to some extent in the report. Concerning the last, it is mentioned that 'in much modern writing it is taken as axiomatic that psychiatric wards in general hospitals are the most desirable form of provision for psychiatric medical care', but that this is a view which the Expert Committee on Mental Health was unable to accept without reservation. 'Too often the psychiatric wards of a general hospital are forced by the expectations of the hospital authorities to conform to a pattern which is harmful to their purpose. In addition, they "may prove very detrimental to the community mental hospital if they are the only portal of entry for patients into the latter. In such a case the general hospital may treat and return to society a high proportion of psychiatric patients capable of early recovery and send to the community mental hospital only those patients who are grossly disturbed chronic or of apparently bad prognosis. There is no more certain way of turning the community mental hospital into a madhouse and depriving it of its role of a therapeutic community

Extramural Activities and Treatment

Once the provision of beds for essential custodial care has been achieved, priority should be given to the development of psychiatric activities within the community which the hospital serves. It has been shown in highly developed communities that a considerable part of the time of the psychiatrist on the staff of a community mental hospital can fruitfully be spent on preventive and therapeutic work in the community. Among the activities suggested in the report are the spreading of information to the public concerning the hospital itself and the nature of psychiatric illness, the development of mental health education within the community, and the study of both the mental health problems in the community and the

LEPROSY

The first report of the Expert Committee on Leprosy¹ emphasizes the fact that leprosy is not a disease apart that it is rather a general public health problem in the countries where it is endemic " It is maintained that any measures for raising public health standards are likely to help in the control of leprosy, whether they be directed against specific infections or infestations or be concerned with the improvement of nutrition sanitation or housing It is further stated that public health and not public fears and prejudices should determine the policy in respect to leprosy control "

Considering methods of leprosy control the committee endorses the statement made at the Fourth International Congress for Leprosy (Cairo 1938) to the effect that leprosy "is an infectious disease spread principally by direct contact and possibly by indirect contact As with other infectious diseases the aim is to discover cases as soon as possible in order to control the spread of infection to the community and in order to give the patient the benefit of treatment Modern treatment is in fact regarded as the most potent generally applicable weapon now available in the control of the disease The report describes a dispensary system aiming at the early detection and treatment of cases which is felt to be essential in the organization of leprosy control

In respect to isolation and from an administrative point of view leprosy cases should be classified as infectious ("open") or non infectious ("closed") even though it is recognized that there are degrees of infectiousness Only cases considered infectious need to be subjected to some form of isolation but all cases require treatment It is pointed out that there are variations according to country and area with regard to the degree of isolation of infectious cases necessary the methods of securing it and the amount of compulsion required Attention is drawn to the disadvantages of compulsory isolation Because patients fear to break up their families and to leave their dependants unprovided for and still more because they fear an indefinite stay in the leprosarium they tend to conceal their disease at a time when treatment would be most effective and when they are a danger to their contacts The need for education of the public concerning the nature of leprosy is stressed since public opinion ranges from callous indifference to panic and the patient and his relatives are often subjected to barbaric cruelty "

Sulfone treatment is stated to be greatly superior to previous forms of treatment It was long believed that DDS (d aminodiphenyl sulfone) was too toxic for use in human beings but "experience in thousands of cases of leprosy in several countries for a period of over four years has shown this

child. The presence in the family of other children, whether natural or adopted, may provide a more normal setting for the newcomer, who should if possible arrive in it as the then youngest member. In instances in which there is more than one child in a family available for adoption, every effort should be made not to separate them, the adoption of brothers and sisters should if possible be arranged in such a way that their emotional ties will not be severed.

From the viewpoint of the adopting parents, there are also certain considerations. They may wish some assessment of the child's mental capacity and information concerning his heredity. The difficulties in appraising intellectual potentialities of a child, particularly at an early age, are pointed out in the report. It is suggested that persons who want to adopt infants should be told: "This child may turn out to be of average ability, below average, or superior. So might one of your own!" If emotionally you in honesty cannot incorporate a child into your life whether he be slow or accelerated, perhaps you should not take the risk nor allow him to take the risk that every parent and child has when, for better or worse, by delivery or by adoption, their lives become enmeshed.

The report deals at some length with the particular problem of the natural mother, whether or not she should keep her baby and the timing of her separation from him if she decides upon relinquishment. In the latter case, it is considered best to place a child in an adopting home as soon as possible to avoid a change which may be disturbing for him. Although direct placement is in general, regarded by adoption agencies as unfortunate, the delay often involved in making inquiries for safeguarding the baby and the adopting parents may produce impatience in the adopting parents and possibly damaging circumstances for the child.

It is emphasized that the adopted child needs special protection. Of particular importance at every stage is the quality of motherly care which he receives. This is of primary significance if intermediate placement in a foster home or nursery is necessary. To make the transition from one environment to another easier, he should be given a chance to become familiar with the people to whom he is going. No change should be sudden and in each change the child should retain some object from the old environment to which he has been attached so that some continuity of experience may be preserved. The adopted child should be aware from an early age of the fact that he is adopted, but he must have assurance as to the validity of his relationship with his new parents and protection against intrusion upon this relationship by his natural parent(s) or by legal complications.

Throughout the report stress is laid on the necessity of having skilled and understanding personnel to carry out the very complicated processes of adoption—personnel with an awareness of what these processes may mean to the people involved, particularly to the adopted child.

Laws which limit the practice of nursing to qualified nurses are much less common. This is probably due to lack of personnel. Among the laws which prohibit the practice of nursing by any but qualified nurses may be mentioned those in force in Austria, Canada (Prince Edward Island and Quebec), France, Japan, Switzerland (Cantons of Aargau, Neuchâtel and St. Gallen) and the USA (States of Connecticut, Florida, New York, Pennsylvania and Tennessee). When legislation restricts the practice of nursing it must define nursing so that persons who under special circumstances are providing care which would otherwise be considered nursing are exempted (e.g. family care or care by domestics, first aid care given by assistant nurses etc.).

The lack of precision in the definition of the nursing function is striking. This vagueness is however directly related to the *de facto* situation. The nursing function includes not only a varied and varying range of technical skills but also many tasks which can be performed by any unqualified person. On the other hand the nurse is in the exercise of her profession becoming more and more exposed to the risk of violating the laws with regard to the practice of medicine since increasing demands are made upon her to carry out professional acts which demand wide technical knowledge. For these reasons it is not possible to lay down absolutely precise legal definitions of the nurse's functions and thus to protect her effectively. In spite of these difficulties some countries have defined nursing and have indicated the limits of the nurse's professional activities (e.g. Japan, Union of South Africa). Certain countries have also defined the care which may be given by auxiliary nurses.

Examination of the most recent legislative texts shows that a number of governments are giving attention to the question of recognition of foreign qualifications. This problem is in fact becoming increasingly important in view of the rapidity of population movements. Some countries recognize diplomas acquired abroad by their own nationals; in other countries the legislation covers both nationals and foreigners. There are also reciprocity agreements between different countries with regard to recognition of qualifications. Reciprocal recognition of qualifications is made difficult however by the multiplicity of professional titles in use and by the differences in the nature and duration of training required to obtain such titles. Since this multiplicity is due to the development of nursing which is characterized at the present stage by specialization, this difficulty will undoubtedly increase as time goes on.

In an appendix to the study the various categories of nurses and their professional titles are shown in a table by country under five headings: nurses, specialized nurses, public health nurses, assistant nurses, and a fifth heading under which are given the titles used in registration or licensure. Two observations are necessary: (1) in practice many professional titles are used which do not yet have official recognition and only titles sanc-

belief to be erroneous, provided the dose is suitably regulated' Treatment with thiosemicarbazones and other therapeutic agents supplementary therapy, physiotherapy, surgery, and orthopaedics are also discussed in the report

Possible prophylaxis by means of BCG has been studied in some countries, particularly Brazil, further investigations it is felt are needed to confirm the preventive value of this vaccine in leprosy and are accordingly recommended

Other subjects dealt with are the epidemiology of leprosy, classification of cases immunology (in which details concerning the lepromin test are given), and the significance of histopathological examinations

Review of WHO Publications

COMPARATIVE STUDY OF HEALTH LEGISLATION NURSING

The WHO Expert Committee on Nursing at its second session recommended that the Organization study different methods used in legislating for nursing¹ Accordingly, a survey of nursing legislation in about twenty countries and State subdivisions has been made and has recently been published in the *International Digest of Health Legislation*² This study deals, in particular, with provisions relative to conditions of training approval of nursing schools, organization and powers of nursing councils, the practice of the profession of nursing and recognition of foreign diplomas and of qualifications obtained before promulgation of new laws Most of the legislative texts to which this study refers have appeared either in the section *Lois et réglementations sanitaires* of the *Bulletin mensuel de l'Office international d'Hygiène publique* or in the *International Digest of Health Legislation*

One of the most important sections of the study is that on Nursing practice—that is the legislation regarding the registration of nurses, their removal from the register and their authorization to practise In most of the countries studied the law simply prohibits unqualified personnel from using the title nurse and from wearing the registered nurse's uniform and, in some cases certain badges, it does not prohibit the practice of nursing by unqualified persons, but merely reserves to registered nurses the right to use the title

¹ *Wld Hlth Org techn. Rep Ser* 1952, 49 19

² *Int Dig Hlth Legls* 1953 4 463 This study is also available, in English and in French, in the form of a reprint. Price 2/-, \$0.25 or Sw fr 1—

Views on WHO

A Tribute to Dr Chisholm

In a recent editorial (1953 1 1324) the *British Medical Journal* makes the following comment on the occasion of the retirement of the Director General of WHO

"Exceptional qualities are called for in the chief administrative officer of an international organization. He must be not only its servant but in a sense its master not only carry out its decisions but to some extent initiate and ensure them; he must be not only a Civil Servant but a principal in world affairs. The United Nations has been fortunate in the men who have occupied the principal posts in its specialized agencies conspicuously so in the World Health Organization which from its start in 1946 has had Dr Brock Chisholm as its Director General. Dr Chisholm who is still the right side of 60 is retiring from the post and no doubt has further achievement in other important spheres in front of him. He was well chosen for he had been Director General of Medical Services in the Canadian Army and Deputy Minister of National Health and Welfare in the Federal Cabinet and before he held those posts he had been for seven years in general medical practice in Toronto a period which was both preceded and followed by a year or two of postgraduate work in London.

"In his farewell address delivered to the recent sixth World Health Assembly Dr Chisholm spoke of the conditions essential to the success of the Organization insisting that the first of them was the participation of all nations in the work of WHO.

There has been some girding at the cost of what are sometimes called United Nations frills. Even in the old days of

the League whose building at Geneva WHO inhabits the health budget was a favourite target for criticism not least among the delegates themselves who spent many a midnight devising cheeseparing economies. Yet as Dr Chisholm pointed out, the expenditure through WHO is no more than the amount which many a large city spends on its municipal sanitary arrangements. Seen against the background of need in a world where most people are still without the benefits of modern medical knowledge the WHO budget is ridiculously small. The contribution of the United Kingdom so far as we can make it out is about one penny a year for each citizen. The world has been slow in realizing that health and not on humanitarian grounds alone—is an international concern. It is true that there have been recent upsurges such as Point IV and the Colombo Plan but, while it has been proclaimed that nations must be prepared to invest an important part of their resources in banishing economic and social insecurity which give rise to the fear of war the impulse has been bedevilled because this very fear of war gives an overriding priority to rearmament and prevents governments from embarking upon the rehabilitation of the under-developed areas. Nevertheless WHO has achieved much in seven years in the control of communicable diseases and in the encouragement of national health projects. But most of all as Dr Chisholm said it has afforded evidence along with other agencies of the United Nations that men belonging to widely different political social and religious systems can co-operate in fraternal association.

tioned by legislation are listed in this table (2) it should be noted that the similarity of the terms in use is often purely formal since the nature and duration of the training vary from country to country. The table will nevertheless be of interest to those who wish to obtain some idea of specialization in nursing in different countries.

WORLD DIRECTORY OF MEDICAL SCHOOLS

WHO has from its beginning been interested in medical educational institutions as the source of trained health personnel. A recent manifestation of this interest is the publication of the *World directory of medical schools*,¹ which aims to make readily available information on medical teaching institutions throughout the world.

More than 500 institutions are listed in the Directory. In addition to the name and place of each, the following information is given wherever possible: the year in which the school was founded, details concerning its administration, the length of the academic year, conditions for admission, numbers of full time and part time teachers, total enrolment, by sex, number of new students admitted annually, language in which instruction is given, total number of years of study required to obtain a degree, the degrees obtainable, annual number of graduates and annual tuition fees.

The collection of the data for the Directory was made through questionnaires addressed to the institutions themselves. In instances in which replies were not forthcoming, information was obtained through other sources, such as lists and directories. The accuracy of the latter could not be verified; also some of the information given in such lists or directories, though at one time correct, may now be obsolete. The Organization hopes that with the co-operation of all concerned, future editions of the Directory will be more exact and complete. The present Directory, however, meets a long felt need and lays the foundation for improved subsequent editions.

World Health Organization (1953) *World directory of medical schools*. Geneva. 300 pages, clothbound. Price: 25/-, \$4.00. Fr. fr. 1.00 — Sw. fr. 13 — Bilingual edition, English and French.

Design and Operation of Septic Tanks

A monograph on the design and operation of sewage treatment and disposal installations for small groups of houses or for isolated dwellings will soon be published by WHO. This monograph contains some of the papers which were presented at the Third European Seminar for Sanitary Engineers, together with a summary of the discussions at the Seminar. It is a publication which will be of particular interest to sanitary engineers and public-health authorities. A review of this monograph will be published in the November *Chronicle*.

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National Citizens Committee for WHO

In an article entitled "WHO and you" the *American Journal of Public Health* (1953 43 339) describes some of the ways in which WHO and its activities are being brought to the attention of the general public

Association members will undoubtedly recall the excellent symposium on International Health held at the San Francisco meeting in 1951. Dr. Brock Chisholm and two of WHO's regional directors, Dr. Chandra Mani and Dr. Fred L. Soper, described the obstacles to progress in world health and what WHO is doing in its program to meet them. The National Citizens Committee for the World Health Organization co-sponsored this session and Dr. Frank G. Boudreau representing that committee concluded the symposium with a stirring paper on Our Stake in World Health in which he pointed out the obstacles here at home in the United States which stand in the way of adequate support of the work of WHO. First among these obstacles is ignorance and the public apathy which goes with it.

"Take the situation as it now stands. If you stepped out on the sidewalk today stopped a man and asked him what the phrase 'world health' means to him he would be nonplussed. If you asked him

what the letters WHO meant to him you would probably be answered by a blank stare. UN would produce a response possibly UNESCO but the work of those Specialized Agencies affiliated with the UN is probably better recognized outside our country than here.

The purpose of the National Citizens Committee for WHO is to eliminate this form of illiteracy, through education to get Americans interested in helping to improve the health of people in all parts of the world and to recognize what the World Health Organization is and should be doing in this field. As the next step in its program the committee is organizing a National Conference on World Health open to all individuals and organizations who are interested in helping to create better health conditions for the world's population.

All of us have a duty to be well informed about WHO and its work. Our readers may be interested to know that anyone can receive the WHO Newsletter free of charge. More technical documents such as the *Bulletin* of the WHO, the *Chronicle* and special reports and monographs may be ordered from [WHO sales agents, either directly or through any bookseller].

Publication devoted to WHO

Following a precedent established five years ago the *Journal of the American Medical Women's Association* has published an annual number devoted to the activities of WHO.¹ In addition to an editorial on the National Citizens Committee for the World Health Organization and a summary of the Annual Report of the

Director General for 1952 the *Journal* contains a number of special contributions by WHO staff members: "WHO and Afghanistan" by R. L. Tuli; "The work of WHO on virus and rickettsial diseases" by A. M. Payne; and "Environment and health" by R. N. Clark.

¹ *J. Amer. med. Women Ass.* 1953 8 217-243

International Non-Proprietary Names

It has long been realized that there is a need to avoid the confusion which exists when different non proprietary names come into use for the same medicinal substance. This multiplicity of names can be the source of difficulties in the daily work of the physician and of the pharmacist as well as in therapeutic research throughout the world.

In many countries attempts have been made and progress achieved in obtaining the desired uniformity on a national level (examples "Generic Names" of the Council on Pharmacy and Chemistry of the American Medical Association "Approved Names" of the General Medical Council in the United Kingdom "Nordiske Farmakopenaevn" of the Scandinavian Pharmacopoeia Council "Denominations communes" in France etc). The World Health Organization was asked to co-ordinate these efforts at an international level and special requests were made to select international non proprietary names for drugs liable to produce addiction in order to facilitate their international control.

According to the following "Procedure for the selection of recommended international non proprietary names for drugs moving in international commerce" annexed to Resolution EB12.R24 adopted by the Executive Board at its twelfth session¹ WHO receives requests for the establishment of international non proprietary names for new drugs which can be used freely in all countries and publishes lists of proposed international non proprietary names.

Procedure for the Selection of Recommended International Non Proprietary Names for Drugs Moving in International Commerce

The following procedure shall be followed by the World Health Organization in the selection of recommended international non proprietary names for drugs moving in international commerce in accordance with the World Health Assembly resolution WHA3.11².

1. Proposals for recommended international non proprietary names shall be submitted to the World Health Organization on the form provided therefor.

2. Such proposals shall be submitted by the Director-General of the World Health Organization to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose for consideration in accordance with the "General principles for guidance in devising international non proprietary names"³. The name used by the person discovering or first developing

¹ Off. R. c. Wild Hlth Org 49:29 (Resolution EB12.R24)

² Off. R. Wild Hlth Org 28:19

³ See Wild Hlth Org 1 Int. R. p. S. 43:29 or Ch. Wild Hlth Org 1952, 6:324

and marketing a drug shall be accepted unless there are compelling reasons to the contrary

3 Subsequent to the examination provided for in Rule 2 the Director General of the World Health Organization shall give notice that a proposed international non proprietary name is being considered

A Such notice shall be given by publication in the *Chronicle of the World Health Organization* and by letter to Member States and to national pharmacopoeia commissions or other bodies designated by Member States

(i) Notice may also be sent to specific persons known to be concerned with a name under consideration

B Such notice shall

(i) set forth the name under consideration

(ii) identify the person who submitted a proposal for naming the substance if so requested by such person

(iii) identify the substance for which a name is being considered

(iv) set forth the time within which comments and objections will be received and the person and place to whom they should be directed

(v) state the authority under which the World Health Organization is acting and refer to these rules of procedure

C In forwarding the notice the Director General of the World Health Organization shall request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the proposed name during the period it is under consideration by the World Health Organization

4 Comments on the proposed name may be forwarded by any person to the World Health Organization within six months of the date of publication under Rule 3 of the name in the *Chronicle of the World Health Organization*

5 A formal objection to a proposed name may be filed by any interested person within six months of the date of publication under Rule 3, of the name in the *Chronicle of the World Health Organization*

A Such objection shall

(i) identify the person objecting

(ii) state his interest in the name

(iii) set forth the reasons for his objection to the name proposed

6 Where there is a formal objection under Rule 5 the World Health Organization may either reconsider the proposed name or use its good offices to attempt to obtain withdrawal of the objection. No name shall be selected by the World Health Organization as a recommended international non proprietary name while there exists a formal objection filed under Rule 5 which has not been withdrawn

7 Where no objection has been filed under Rule 5 or all objections previously filed have been withdrawn the Director General of the World Health Organization shall give notice in accordance with subsection A of Rule 3 that the name has been selected by the World Health Organization as a recommended international non proprietary name

8 In forwarding a recommended international non proprietary name to Member States under Rule 7 the Director General of the World Health Organization shall

A request that it be recognized as the non proprietary name for the substance and

B request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the name including prohibiting registration of the name as a trade mark or trade name

In accordance with paragraph 3 of the above Procedure notice is hereby given that the following names are under consideration by the World Health Organization as proposed international non proprietary names

Proposed International Non Proprietary Names

<i>Latin</i> <i>International Name</i> (Latin, English, French)	<i>Chemical Name</i> <i>Description</i> (English, French)
acetrocholum acetrochol acébrochol	acetodibromodihydrocholesterol acéto dibromo dihydro cholestérol
accediasulfonum natricum accediasulfone sodium acédiatsulfone sodique	4-carboxymethylamino-4 amino-diphenylsulfone carboxymethylamino-4 amino-4 diphenylsulfone
acetaminosalolum acetaminosalol acétaminosalol	acetyl-4-aminophenyl salicylate salicylate d acétyl amino-4 phényle
acidum aminoaceticum amino-acetic acid acide amino-acétique	amino acetic acid glycocoil acide amino-acétique glycocolle
acidum dehydrocholicum dehydrocholic acid acide dehydrocholique	
acidum gentisicum gentisic acid acide gentisique	5 hydroxysalicylic acid acide hydroxy 5 salicylique
acidum glutamicum glutamic acid acide glutamique	glutamic acid acide glutamique
acidum iopanoicum iopanoic acid acide iopanoïque	3 (3 amino-2,4,6-triodophenyl)-2-ethylpropanoic acid acide (amino-3 triodo 2,4,6 phényle) éthyl 2 propa noïque
acrisflavinum chloridum acrisflavinum chloride chlorure d acrisflavinium	mixture of the hydrochlorides of 3,6-diamino-10- methylacridinum chloride and 3,6-diamino- acridine mélange des chlorhydrates de chlorure de diamino- 3,6 methyl 10 acridinum et de diamino-3,6 acridine
adipheninum adiphenine adiphenine	diethylaminoethyl ester of diphenylacetic acid ester diéthylaminoéthylque de l'acide diphenyl acétique

<i>International Non proprietary Name (Latin, English, French)</i>	<i>Chemical Name or Description (English-French)</i>
adrenalonum adrenalone adrélanone	α 3 4 dihydroxyphenyl- β -methylaminoethanone α (dihydroxy 3 4 phényl)- β méthylamino-éthanone
aethacridinum ethacridine éthacridine	2-ethoxy 6 9-diaminoacridine éthoxy 2 diamino-6 9 acridine
aethoxazorutosidum ethoxazorutoside éthoxazorutoside	monomorphofylethylrutoside monomorpholyl éthyl rutoside
alcoholum benzyleum benzyl alcohol alcool benzylique	phenylcarbinol phényl carbinol
aldesulfonum natricum aldesulfone sodium aldésulfone sodique	disodium salt of 4 4 -diaminodiphenylsulfone formaldehydesulfoxylic acid sel disodique de l'acide diamino-4 4 diphényl sulfone formaldéhyde sulfoxylique
allobarbitalum allobarbital allobarbital	5 5-diallylbarbituric acid acide diallyl 5 5 barbiturique
allocupreidum natricum allocupreide sodium allocupréide sodique	sodium cuproallylthiourea:dobenzoate cupro allyl thiouréido benzoate de sodium
allomethadionum allomethadione allométhadione	3-allyl 5 methylloxazolidine 2,4-dione allyl 3 méthyl 5 oxazolidine dione-2 4
alphameprodinum alphameprodine alphaméprodine	α propionoxy-4 phenyl 1 methyl 3-ethyl piperidine α propionoxy phényl-4 méthyl 1 éthyl 3 pipéridine
alphaprodinum alphaprodine alphaprodine	1 3-dimethyl-4-phenyl-4 propionoxypiperidine diméthyl 1 3 phényl-4 propionoxy-4 pipéridine
aminoacridinum aminoacridine aminoacridine	9 aminoacridine amino 9 acridine
aminoethylis nitras aminoethyl nitrate nitrate d'aminoéthyle	nitrate ester of aminoethanol ester nitrique d'amino éthanol

International Non-proprietary Name
(Latin, English, French)

Chemical Name of the Description
(English, French)

aminothiazolum
aminothiazole
aminothiazol

amobarbitalum
amobarbital
amobarbital

amodiaquini hydrochloridum
amodiaquine hydrochloride
chlorhydrate d amodiaquine

amovecanum
amovecaine
amovecaine

antazolini hydrochloridum
antazoline hydrochloride
chlorhydrate d antazoline

aprobarbitalum
aprobarbital
aprobarbital

aurothioglycanidum
aurothioglycanide
aurothioglycanide

azamethoni bromidum
azamethonium bromide
bromure d azaméthonium

bacitracinum
bacitracin
bacitracine

benethamini penicillinum
benethamine penicillin
pénicilline bèneéthamine

benzalkoni chloridum
benzalkonium chloride
chlorure de benzalkonium

benzethoni chloridum
benzethonium chloride
chlorure de benzéthonium

5-ethyl 5-(3 methylbutyl) barbituric acid
acide éthyl 5 (méthyl 3 butyl)-5 barbiturique

7-chloro-4-(3 -diethylaminomethyl-4
hydroxyanilino) quinoline dihydrochloride
dihydrate
bichlorhydrate bihydraté de (diéthylaminométhyl 3
hydroxy-4 anilino)-4 chloro-7 quinoléine

N,N triethylethylenediamine-*N* β -ethyl
p-aminobenzoate
p-aminobenzoate de *N,N* triéthyléthylènediamine
N- β -éthyle

2 *N* benzylanilinomethylimidazoline hydrochloride
chlorhydrate de 2 phénylbenzyl amino méthyl
imidazoline

allylisopropylbarbituric acid
acide allyl isopropyl barbiturique

auromercaptoacetanilide
auromercaptoacetanilide

3 methyl 3-azapentane-1 5-bis (ethyl-dimethyl
ammonium) bromide
bromure de méthyl 3 aza 3 pentane bis (éthyl diméthyl
ammonium) 1 5

benzylpenicillin salt of *N* benzyl β -phenylethylamine
sel de *N* benzyl- β -phenylethylamine de la benzyl
penicilline

mixture of alkylbenzyl dimethylammonium chlorides
mélange de chlorures d alkylbenzyl diméthylam
monium

benzyl dimethyl *p*-(1 1 3 3-tetramethylbutyl)
phenoxyethoxyethylammonium chloride
chlorure de benzyl diméthyl *p*-(tétraméthyl 1 1 3 3
butyl) phénoxy éthoxy éthylammonium

<i>International Non-proprietary Name</i> (Latin, English, French)	<i>Chemical Name or Description</i> (English, French)
benzododecinum benzododecinum benzododécinium	dimethylbenzyl dodecyl ammonium diméthyl benzyl dodécyl ammonium
benzoestrolum benzoestrol benzoestrol	3-ethyl 2,4 bis (<i>p</i> -hydroxyphenyl) hexane éthyl 3 bis (<i>p</i> -hydroxyphényl)-2,4 hexane
benzpyrinium bromidum benzpyrinium bromide bromure de benzpyrinium	1 benzyl 3 (dimethylcarbamyl oxy)pyridinium bromide bromure de benzyl 1 (diméthyl carbamyl oxy) 3 pyridinium
benzylsulfamidum benzylsulfamide benzylsulfamide	4 benzylaminophenylsulfonamide benzylamino-4 phénylsulfonamide
betameprodinum betameprodine bétameprodine	β propionoxy-4 phenyl 1 methyl 3-ethylpiperidine β propionoxy phényl-4 méthyl 1 éthyl 3 pipéridine
bibrocatholum bibrocathol bibrocathol	bismuth derivative of tetrabromopyrocatechol dérivé bismuthique de tétrabromo pyrocatéchol
biotinum biotin bioline	
bithionolum bithionol bithionol	2,2 thiobis (4,6-dichlorophenol) thio-2,2'bis (dichloro-4,6 phénol)
bromisovalum bromisoval bromisoval	α bromoisovaleryl carbamide α bromo isovaléryl carbamide
calciu pantothenas calcium pantothenate pantothénate de calcium	calcium salt of <i>N</i> [(1,3-dihydroxy 2 dimethylbutyryl) β -alanine sel calcique de <i>N</i> [dihydroxy 1,3 diméthyl 2 butyryl] β alanine
camphotamidum camphotamide camphotamide	camphosulfonyl <i>N</i> methylpyridine- β -diethyl carbonamide β -diéthyl carbonamide de la campho sulfonyl <i>N</i> méthyl pyridine
caramipheni chloridum caramiphenium chloride chlorure de caramiphenium	diethylaminoethyl 1 phenylcyclopentane 1-carb oxylate hydrochloride chlorhydrate de diéthylaminoéthyl phényl 1 cyclo- pentane carboxylate 1

<i>International Non-proprietary Name</i> (Latin, English, French)	<i>Chemical Name</i> (English, French)
carbomycinum carbomycin carbomycine	an antibiotic substance produced by a strain of <i>Streptomyces halstedii</i> une substance antibiotique produite par une souche de <i>Streptomyces halstedii</i>
carbromalum carbromal carbromal	α bromo- α -ethylbutyrylurea α bromo- α -éthyl butyryl urée
cetobemidonium ketobemidone cétobemidone	4- <i>m</i> hydroxyphenyl 1 methyl-4-propionoyl piperidine methyl 1 <i>m</i> hydroxyphenyl-4 propionoyl-4 pipéridine
cetrimonium cetrimonium cétrimonium	cetyltrimethylammonium cetyl triméthyl ammonium
cetylpyridinium chloridum cetylpyridinium chloride chlorure de cetylpyridinium	
chloramphenicolum chloramphenicol chloramphénicol	D(+) threo 1 <i>p</i> nitrophenyl 2-dichloroacetamido 1,3 propanediol D(+) -thréo <i>p</i> -nitrophényl 1 dichloroacétamido-2 propanediol 1,3
chlorazodinium chlorazodin chlorazodine	α α azo-bis(chloroformamidine) α α azo bis(chloroformamidine)
chlorcyclizinium chloridum chlorcyclizinium chloride chlorure de chlorcyclizinium	(\pm) 1-(<i>p</i> -chlorobenzhydryl)-4-methylpiperazinium chloride chlorure de (\pm) méthyl-4 (<i>p</i> -chlorobenzhydryl)-1 piperazinium
chlormethunum chlormethane chlorméthine	di-(chloroethyl)methylamine di-(chloroéthyl)méthylamine
chlornaphazinum chlornaphazine chlornaphazine	2,2-dichlorodiethyl β -naphthylamine dichloro 2,2 diethyl β naphtylamine
chlorophenothanum technicum technical chlorophenothane chlorophenothane technique	contains <i>pp</i> -dichlorodiphenyltrichloro-ethane and <i>op</i> -dichlorodiphenyltrichloro-ethane contient du <i>pp</i> -dichlorodiphényltrichlor-éthane et du <i>op</i> -dichlorodiphényltrichlor-éthane
chloropyraminum chloropyramine chloropyramine	<i>N</i> β -dimethylaminoethyl <i>N</i> <i>p</i> -chlorobenzyl 2 aminopyridine <i>N</i> β -diméthylamino éthyl <i>N</i> <i>p</i> -chlorobenzyl amino-2 pyridine

<i>International Non-proprietary Name</i> (Latin, English, French)	<i>Chemical Name or Description</i> (English, French)
chloropylenii citras chloropylenium citrate citrate de chloropylénium	<i>N,N</i> -diméthyl <i>N</i> -(2-pyridyl) <i>N</i> -(5-chloro-2-thényl) ethylenediamine citrate citrate de <i>N,N</i> -diméthyl <i>N</i> -(pyridyl 2) <i>N</i> -(chloro-5 thényl 2) éthylenediamine
chlorpromazini chloridum chlorpromazinum chloride chlorure de chlorpromazinium	2-chloro-10-(3-diméthylaminopropyl) phenothiazinium chloride chlorure de chloro-2 (diméthylamino-3-propyl)-10 phénothiazinium
chlorquinaldolum chlorquinaldoli chlorquinaldole	5,7-dichloro-8-hydroxy-2-methylquinoline dichloro-5,7-hydroxy-8-méthyl-2-quinoléine
cholini gluconas cholinum gluconate gluconate de cholinum	2-(hydroxyethyl) triméthylammonium D-gluconate D-gluconate de (hydroxyéthyl)-2 triméthylammonium
cinchocaini chloridum cinchocainum chloride chlorure de cinchocainium	hydrochloride of the β -diethylaminoethylamide of 2-butyloxy cinchoninic acid chlorhydrate du β -diéthylaminoéthylamide de l'acide butyloxy-2-cinchoninique
cinchophenum cinchophen cinchophène	2-phenylquinoline-4-carboxylic acid acide phényl-2-quinoléine-carboxylique-4
coccarboxylasum coccarboxylase coccarboxylase	pyrophosphoric ester of thiamine ester pyrophosphorique de thiamine
corbadinum corbadine corbadrine	1-(3,4-dihydroxyphenyl)-2-aminopropanol hydrochloride chlorhydrate de (dihydroxy-3,4-phényl)-1-amino-2- propanol
corticotrophinum corticotrophin corticotrophine	adrenocorticotrophic hormone hormone adrénocorticotrope
cortisonum cortisone cortisone	11-dehydro-17-hydroxycorticosterone déhydro-11-hydroxy-17-corticostérone
cyanocobalaminum cyanocobalamin cyanocobalamine	vitamin B ₁₂ vitamine B ₁₂
cyclizini chloridum cyclizinium chloride chlorure de cyclizinium	<i>N</i> -diphenylmethyl <i>N</i> -methylpiperazinium dichloride dichlorure de <i>N</i> -diphénylméthyl <i>N</i> -méthylpipérazini- um

Latin, English, French

Chemical Name or Description
(English, French)

cyclobarbitalum
cyclobarbitol
cyclobarbitol

5 (1-cyclohexenyl)5-ethylbarbituric acid
acide éthyl 5 (cyclohexényl) 5 barbiturique

cyclopentanum
cyclopentamine
cyclopentamine

N-α-dimethylcyclopentylethylamine
N α dimethylcyclopentyl éthylamine

cyclopropanum
cyclopropane
cyclopropane

decamethonium
decamethonium
decaméthonium

decamethylene 1 10-bis(trimethylammonium)
décaméthylène bis-triméthylammonium 1 10

dexamphetanum
dexamphetamine
dexamphétamine

(+) amphetamine
(+) amphétamine

dextranum
dextran
dextran

dextromethorphanum
dextromethorphan
dextrométhorphane

(+) 3 methoxy *N* methylmorphinan
(+) methoxy 3 *N* methylmorphinane

dextrorphanum
dextrorphan
dextrorphane

(+) 3 hydroxy *N* methylmorphinan
(+) hydroxy 3 *N* methylmorphinane

diaphenylsulfonum
diaphenylsulfone
diaphenylsulfone

4 4 -diaminodiphenylsulfone
diamino-4 4 diphenyl sulfone

dibemethinum
dibemethine
dibéméthine

dibenzylmethylamine
dibenzyl méthylamine

dichlorophenarsini
hydrochloridum
dichlorophenarsine hydrochloride
chlorhydrate de
dichlorophenarsine

3 amino-4-hydroxyphenyl dichlorarsine
hydrochloride
chlorhydrate d amino-3 hydroxy-4 phényl
dichloroarsine 1

dienoestrolum
dienoestrol
dienoestrol

p p -dihydroxy 3 4-diphenylhexadiene 2,4
p p -dihydroxy diphenyl 3 4 hexadiène 2 4

<i>International Non-proprietary Name</i> (Latin English French)	<i>Chemical Name or Description</i> (English, French)
diethazinum diethazine diéthazine	<i>N</i> diethylaminoethylphenothiazine <i>N</i> diéthylaminoéthyl phénothiazine
diethylcarbamazinium diethylcarbamazine diéthylcarbamazine	1 diethylcarbamoyl-4 methylpiperazine diéthylcarbamoyl 1 méthyl-4 piperazine
digitoxosidum digitoxoside digitoxoside	consists of digitoxoside proper plus a small amount of related heterosides composé de digitoxoside proprement dit, plus une petite quantité d'hétérosides apparentés
dihydrostreptomycinum dihydrostreptomycin dihydrostreptomycine	
dihydrotachysterolum dihydrotachysterol dihydrotaehystérol	
diiodohydroxyquinolinum diiodohydroxyquinoline diiodohydroxyquinoléine	8 hydroxy 5,7 diiodoquinoline hydroxy 8 diodo 5,7 quinoléine
dimenhydrinatum dimenhydrinate dimenhydrinate	2 (diphenylmethoxy) <i>N,N</i> dimethylethylammonium 8-chlorotheophyllinate chloro 8 théophyllinate de (diphénylméthoxy) 2 <i>N,N</i> diméthyl éthylammonium
dimercaprolum dimercaprol dimercaprol	2,3-dimercaptopropanol dimercapto-2,3 propanol
dimethiodalum natricum dimethiodal sodium diméthiodal sodique	sodium diiodomethanesulfonate diiodo méthane sulfonate de sodium
dimethyltubocurarinum chloridum dimethyltubocurarinum chloride chlorure de diméthyltubocurarinium	
dimoxylum phosphas dimoxylum phosphate phosphate de dimoxylum	6,7-dimethoxy 1 (4 ethoxy 3 methoxybenzyl) 3 methylisoquinolinium phosphate phosphate de diméthoxy 6,7 (éthoxy-4 méthoxy 3 benzyl) 1 méthyl 3 isoquinoléinium
diodonum diodone diodone	diethanolamine 3,5 diodo-4-pyridone <i>N</i> acetate diiodo-3,5 pyridone-4 <i>N</i> acétate de diéthanolamine

International Nomenclature
(Latin, English, French)

Chemical Name of the
(English, French)

diperodon hydrochloridum diperodon hydrochloride chlorhydrate de dipéronon	3 (1 piperidyl) 1 2 propanediol dicarbanilate hydrochloride chlorhydrate du dicarbanilate de (piperidyl 1) 3 propanediol 1 2
diphenanum diphenan diphénane	4 benzylphenyl carbamate carbamate de benzyl-4 phényle
diphenhydramini hydrochloridum diphenhydramine hydrochloride chlorhydrate de diphénhydramine	β benzhydriol 2 dimethylaminoethyl ether hydrochloride chlorhydrate de 1 éther oxyde du benzhydrol et du diméthylamino éthanol
diprophyllinum diprophylline diprophylline	dihydroxypropylthéophylline dihydroxy propyl théophylline
disulfiramum disulfiram disulfirame	tetraethylthiuram disulfide disulfure de tétraéthyl thiurame
duxanthogenum duxanthogen duxanthogène	diethylduxanthogen diéthylduxanthogène
doxylaminum succinas doxylaminum succinate succinate de doxylaminum	2 [α -(2-dimethylaminoethoxy)- α -methylbenzyl] pyridine succinate succinate de [α (diméthylamino 2 éthoxy) α méthyl benzyl] 2 pyridine
ethinyloestradiolum ethinyloestradiol éthynylœstradiol	17-ethinyl 3 17-dihydroxy Δ 1 3 5-oestratriene éthynyl 17 dihydroxy 3 17 œstratriène 1 3 5
eucotropinum eucotropine eucotropine	4-hydroxy 1 2 2 6-tetramethylpiperidine phenyl glycollate phénylglycollate de tétraméthyl 1 2 2 6 hydroxy-4 pipéridine
fenethazinum fenethazine fénéthazine	N (2-dimethylamino-1-ethyl) phenothiazine N (diméthylamino-2 éthyl 1) phénothiazine
fumagillinum fumagilin fumagilline	an antibiotic substance produced by certain strains of <i>Aspergillus fumigatus</i> une substance antibiotique produite par certaines souches d <i>Aspergillus fumigatus</i>
furostilboestrolum furostilboestrol furostilboestrol	diethylstilboestrol furoate furoate de diéthylstilboestrol

<i>International Non proprietary Name (Latin English French)</i>	<i>Chemical Name or Description (English French)</i>
furfurethonium iodidum furfurethonium iodide iodure de furtréthonium	furfuryltrimethylammonium iodide iodure de furfuryltriméthylammonium
gallaminum gallamine gallamine	1 2 3 tris(2 diethylaminoethoxy) benzene tri (β-diéthylamino éthoxy) 1 2 3 benzène
glucosulfamidum glucosulfamide glucosulfamide	glucose sodium bisulfite compound of sulfanilamide domethanol dérivé glucosé bisulfité sodique de sulfanilamide méthanol
glucosulfonum glucosulfone glucosulfone	<i>p p'</i> diaminodiphenylsulfone <i>NN</i> di (glucose sodium sulfonate) <i>p p'</i> diaminodiphénylsulfone <i>NN</i> -di (glucose sul fonate de sodium)
glycobiarsolum glycobiarsol glycobiarsol	bismuthyl 4 <i>N</i> glycoloylamino phenyl arsinat <i>N</i> glycoloylamino-4 phényl arsinat de bismuthyle
gonadotrophinum chorionicum chorionic gonadotrophin gonadotrophine chorionique	contains the gonad stimulating substance obtained from the urine of pregnant women hormone gonadotrope obtenue à partir de l urine de femme enceinte
gonadotrophinum sericum serum gonadotrophin gonadotrophine sérique	contains the follicle stimulating substance obtained from the serum of pregnant mares hormone gonadotrope obtenue à partir du sérum de jument gravis
gramicidinum gramicidin gramicidine	
heptaminolum heptaminol heptaminol	2 amino 6 methylheptan 6 ol amino 2 méthyl 6 heptanol 6
hexachlorophenum hexachlorophene hexachlorophène	di (2 hydroxy 3 5 6-trichlorophenyl)methane di-(hydroxy 2 trichloro-3 5 6 phényl)méthane
hexamethonium hexamethonium hexaméthonium	hexamethylene 1 6-bis trimethylammonium hexaméthylène bis triméthylammonium 1 6
hexobarbitalum hexobarbital hexobarbital	5 (1-cyclohexenyl) 1 5-dimethyl barbituric acid acide (cyclohexényl 1) 5 diméthyl 1 5 barbiturique

International Non-proprietary Name
(Latin, English, French)

Chemical Name Description
(English, French)

hexoestrolum	3,4-di-(<i>p</i> -hydroxyphenyl) <i>n</i> hexane
hexoestrol	
hexœstrol	di-(<i>p</i> -hydroxyphényl) 3,4 <i>n</i> hexane
homatropini methylbromidum	
homatropine methylbromide	
méthylbromure d'homatropine	
hyaluronidasum	enzymes of various origins which depolymerize
hyaluronidase	hyaluronic acid
hyaluronidase	enzymes de diverses origines provoquant la dépoly-
	mérisation de l'acide hyaluronique
hydralazinum	1 hydrazinophthalazine
hydralazine	hydrazino-1 phthalazine
hydralazine	
hydrocodoni bitartras	dihydrocodeinone acid tartrate
hydrocodone bitartrate	bitartrate de dihydrocodéinone
bitartrate d'hydrocodone	
hydrocortisonum	17 hydroxycorticosterone
hydrocortisone	hydroxy 17 corticostérone
hydrocortisone	
hydromorphi hydrochloridum	dihydromorphinone hydrochloride
hydromorphone hydrochloride	chlorhydrate de dihydromorphinone
chlorhydrate d'hydromorphone	
hydroxyamphetamini bromidum	1 <i>p</i> -hydroxyphenyl 2 aminopropane hydrobromide
hydroxyamphetanium bromide	bromhydrate de <i>p</i> -hydroxyphényl 1 amino-2 propane
bromure d'hydroxyamphétaminum	
hydroxyprocainum	diethylaminoethanol 4-aminosalicylate
hydroxyprocaine	amino-4 salicylate de diéthylamino éthanol
hydroxyprocaine	
hydroxypyridini tartras	tartrate ester of 3 hydroxypyridine
hydroxypyridine tartrate	ester tartrique d'hydroxy 3 pyridine
tartrate d'hydroxypyridine	
hydroxytetracainum	2 dimethylaminoethanol 4- <i>n</i> butylamino salicylate
hydroxytetracaine	<i>n</i> butylamino-4 salicylate de diméthylamino-2 éthanol
hydroxytétracaine	
ibrotamidum	ethylisopropyl- α bromacetamide
ibrotamide	éthyl isopropyl α bromacétamide
ibrotamide	

Internati nal Non proprietary Name
(Latin English French)

Chemical Name or Description
(English French)

furfurethonium iodidum
furfurethonium iodide
iodure de furtréthonium

furfuryltrimethylammonium iodide
iodure de furfuryltriméthylammonium

gallaminum
gallamine
gallamine

1,2,3 tri(2-diethylaminoethoxy) benzene
tri (β diéthylamino éthoxy) 1,2,3 benzène

glucosulfamidum
glucosulfamide
glucosulfamide

glucose sodium bisulfite compound of sulfanilamide
methanol
dérivé glucosé bisulfite sodique de sulfanilamide
méthanol

glucosulfonum
glucosulfone
glucosulfone

p,p diaminodiphenylsulfone N,N-di (glucose sodium
sulfonate)
p,p diaminodiphénylsulfone N,N di (glucose sul
fonate de sodium)

glycobiarsolum
glycobiarsol
glycobiarsol

bismuthyl 4-N glycoloylaminophenyl arsinat
N glycoloylamino-4 phényl arsinat de bismuthyle

gonadotrophinum chorionicum
chorionic gonadotrophin
gonadotrophine chorionique

contains the gonad stimulating substance obtained
from the urine of pregnant women
hormone gonadotrope obtenue à partir de l'urine de
femme enceinte

gonadotrophinum sericum
serum gonadotrophin
gonadotrophine sérique

contains the follicle-stimulating substance obtained
from the serum of pregnant mares
hormone gonadotrope obtenue à partir du sérum de
jeune gravide

gramicidinum
gramicidin
gramicidine

heptaminolum
heptaminol
heptaminol

2-amino-6-methylheptan-6-ol
amino 2 méthyl 6 heptanol 6

hexachlorophenum
hexachlorophene
hexachlorophène

di-(2-hydroxy-3,5,6-trichlorophenyl)methane
di-(hydroxy 2 trichloro 3,5,6 phényl)méthane

hexamethonium
hexamethonium
hexaméthonium

hexamethylene 1,6-bis(trimethylammonium)
hexaméthylène bis triméthylammonium 1,6

hexobarbitalum
hexobarbital
hexobarbital

5-(1-cyclohexenyl)-1,5-dimethyl barbituric acid
acide (cyclohexényl 1) 5 diméthyl 1,5 barbiturique

1 te national Non-p op let y Nama
(Latin, Engl sh, Fre ch)

Ch ml Nam o D lptio
(Engl sh, French)

levorphanum	
levorphan	() 3 hydroxy <i>N</i> methylmorphinan
lévorphane	() hydroxy 3 <i>N</i> méthylmorphinane
lidocainum	
lidocaine	diethylamino-2 6-dimethylacetanilide
lidocaine	diéthylamino diméthyl 2 6 acétanilide
mafenidum	
mafenide	4-aminomethylphenylsulfonamide
mafenide	aminométhyl-4 phénylsulfonamide
maleylsulfathiazolum	
maleylsulfathiazole	maleyl <i>p</i> aminophenylsulfonamidothiazole
maléylsulfathiazol	maléyl <i>p</i> amino phényl sulfamidothiazol
mannitoli hexanitras	
mannitol hexanitate	
hexanitate de mannitol	
medrylamunum	
medrylamune	β -dimethylaminoethyl <i>p</i> -methoxybenzhydryl ether
médrylamune	éther-oxyde du β -diméthylaminoéthanol et du <i>p</i> méthoxybenzhydryl
menadioli natri sulfas	
menadiol sodium sulfate	2 methyl 1 4-naphthoquinol disodium sulfate
sulfate sodique de ménadiol	sulfate disodique de méthyl 2 naphtoquinol 1 4
menadioni natri bisulfis	
menadione sodium bisulfite	2 methyl 1 4-naphthoquinone sodium bisulfite
bisulfite sodique de ménadione	bisulfite sodique de méthyl 2 naphtoquinone 1 4
mephenesinum	
mephenesin	1 2 dihydroxy 3-(2 methylphenoxy)propane
méphénésine	dihydroxy 1 2 (méthyl 2 phénory) 3 propane
mephenytoinum	
mephenytoin	3 methyl 5 5 phenylethylhydantoin
méphénytoïne	méthyl 3 phénylethyl 5 5 hydantoïne
mepyrarnunum	
mepyrarnune	<i>N p</i> methoxybenzyl <i>N N</i> -dimethyl <i>N</i> 2 pyridylethylenediamune
mépyramune	diméthylaminoéthyl <i>N p</i> -méthoxybenzyl <i>N-a</i> aminopyridine
meralluridum	
meralluride	mixture of methoxyoxymercuri propylsuccinylurea and theophylline
méralluride	mélange de méthoxy oxymercuri propylsuccinylurée et de théophylline

<i>International Non proprietary Name</i> (Latin English French)	<i>Chemical Name or Description</i> (English French)
ichthammolum ichthammol ichthammol	ammonium ichthysulfonate ichthysulfonate d ammonium
intermedinum intermedine intermédine	active principle of the <i>pars intermedia</i> of the pituitary principe actif du lobe intermédiaire d hypophyse
iodetrium iodeteryl iodétryl	ethyl duodostearate duodostéarate d éthyle
iodophthaleinum natricum iodophthalein sodium iodophthaléine sodique	disodium salt of tetraiodophenolphthalein sel disodique de tétraiodophénolphtaléine
iodothiouracilum iodothiouracil iodothiouracil	4 hydroxy 5 iodo-2 mercaptopyrimidine hydroxy-4 iodo 5 mercapto-2 pyrimidine
iproniazidum iproniazid iproniazide	1 isonicotinyl 2 isopropylhydrazide isonicotinyl 1 isopropyl 2 hydrazide
isomethadonum isomethadone isométhadone	6-dimethylamino-4 4-diphenyl 3 hexanone 5 methyl diméthylamino-6 diphényl-4 4 méthyl 5 hexanone 3
isoniazidum isoniazid isoniazide	isonicotinyl hydrazide hydrazide de l acide Isonicotinique
isoprenalinum isoprenaline isoprénaline	1-(3 4-dihydroxyphenyl)2 isopropylamino-ethanol (dihydroxy 3 4 phényl) 1 isopropylamino 2 éthanol
khellinum khellin khelline	5 8-dimethoxy 3 methyl 6 7 furano-chromone extracted from the fruits of <i>Ammi visnaga</i> (L.) Lam diméthoxy 5 8 méthyl 3 furano 6 7 chromone extrait des fruits d <i>Ammi visnaga</i> (L.) Lam
levarterenolum levarterenol lévartéréol	() α 3 4-dihydroxyphenyl β aminoethanol () α -dihydroxy 3 4 phényl β -amino éthanol
levomethorphanum levomethorphan lévométhorphane	(-) 3 methoxy N methylmorphinan (-) méthoxy 3 N méthylmorphinane

<i>International Non-proprietary Name (Latin, English, French)</i>	<i>Chemical Name or Description (English, French)</i>
methandrolium methandroli méthandroli	17 α methyl 3 β 17 β -dihydroxyandrostene 5 méthyl 17 α androstène 5 diol 3 β 17 β
methanthelinii bromidum methanthelinium bromide bromure de méthanthélinium	β diethylaminoethyl xanthene 9-carboxylate méthylbromide bromométhylate de xanthène carboxylate 9 de (β -diéthylamino)-éthyle
methaphenilenum methaphenilene méthaphénilène	<i>N N</i> dimethyl <i>N</i> phenyl <i>N</i> -(2 thienylmethyl) ethylenediamine <i>N N</i> -diméthyl <i>N</i> phényl <i>N</i> (méthyl 2 thiényl) éthylènediamine
methapyrilenum methapyrilene méthapyrilène	<i>N N</i> -dimethyl <i>N</i> -(2 pyridyl) <i>N</i> -(2 thenyl) ethylenediamine <i>N N</i> -diméthyl <i>N</i> -(pyridyl 2) <i>N</i> -(thényl 2) éthylène diamine
metharbitalum metharbitol métharbitol	5 5 diethyl 1 methyl barbituric acid acide diéthyl 5 5 méthyl 1 barbiturique
methenaminii tetraiodidum methenaminium tetraiodide tétraiodure de méthénaminium	hexamethylenetetraminium tetraiodide tétraiodure d'hexaméthylène tétraminium
methenaminum methenamine méthénamine	hexamethylenetetramine hexaméthylène tétramine
methestrol diisopropionas methestrol diisopronate diisopronate de méthestrol	4 4 (1 2 diethylethylene)di- <i>o</i> -cresol diisopropionate diisopronate de (diéthyl 1 2 éthylène)-4 4 di- <i>o</i> -cresol
methiodalum natricum methiodal sodium méthiodal sodique	sodium iodomethanesulfonate iodométhanesulfonate sodique
methoxyphenaminii chloridum methoxyphenaminium chloride chlorure de méthoxyphénaminium	2 (<i>o</i> -methoxyphenyl)-isopropylmethylaninium chloride chlorure de (<i>o</i> -méthoxyphényl) 2 (isopropyl méthylaninium
methylbenzethonii chloridum methylbenzethonium chloride chlorure de méthylbenzéthonium	benzylidimethyl 2 [2-(<i>p</i> -1 1 3 3 tetramethyl butyl cresoxy) ethoxy] ethylammonium chloride chlorure de benzylidiméthyl [(<i>p</i> -tétraméthyl 1 1 3 3 butylcrésoxy) 2 éthoxy] 2 éthylammonium
methylergometrinii tartras methylergometrinium tartrate tartrate de méthylergométrimium	<i>D</i> lysergic acid 2 butanolamide tartrate tartrate de la butanolamide 2 de l'acide <i>D</i> -lysergique

International Non-proprietary Name
(Latin, English, French)

Chemical Name or Description
(English, French)

merbrominum	disodium salt of 2,7-dibromo-4-hydroxymercuri fluoresceine
merbromin	
merbromine	sels disodiques de dibromo-2,7-hydroxymercuri-4 fluorescéine
mercaptaminum	
mercaptamine	β -mercaptoethylamine
mercaptamine	β -mercaptoéthylamine
mercaptomerinum	disodium salt of N-(3-carboxymethylmercapto-mercuri 2-methoxy) propylcamphoramic acid
mercaptomerin	
mercaptoméline	sels disodiques de l'acide N-(carboxyméthyl mercapto-mercuri 3-méthoxy 2) propylcamphoramique
mercuderamidum	hydroxymercuri propanolamide of o-carboxyphenoxycetic acid
mercuderamide	
mercudéramide	hydroxymercuri propanolamide de l'acide o-carboxyphénoxyacétique
mercurobutolum	
mercurobutol	4-tert butyl 2-chloromercuriphenol
mercurobutol	tert butyl-4-chloromercuri 2-phénol
mercuriophyllinum	mixture of the sodium salt of the β -methoxy γ -hydroxymercuri propylamide of trimethylcyclopentanedicarboxylic acid and theophylline
mercuriophylline	
mercuriophylline	mélange de sel sodique du β -méthoxy γ -hydroxymercuri propylamide de l'acide triméthylcyclopentane dicarboxylique et de théophylline
mesulfenum	
mesulfen	2,6-dimethylthianthrene
mésulfène	diméthyl 2,6-thianthrène
metaraminoli bitartras	(-)-1-m-hydroxyphenyl 2-amino-1-propanolhydrogen
metaraminol bitartrate	(+) tartrate
bitartrate de metaraminol	(+) tartrate monobasique de (-)-m-hydroxyphényl 1-amino-2-propanol 1
methacholinii chloridum	
methacholinium chloride	acetyl β -methylcholinium chloride
chlorure de méthacholinium	chlorure d'acétyl β -méthyl cholinium
methadoni hydrochloridum	6-dimethylamino-4,4-diphenyl heptanone
methadone hydrochloride	hydrochloride
chlorhydrate de méthadone	chlorhydrate de diméthylamino-6-diphényl-4,4-heptanone
methamphetaminii chloridum	
methamphetaminium chloride	(+) 1-phenyl 2-methylaminopropane hydrochloride
chlorure de méthamphétaminium	chlorhydrate de (+)-phényl 1-méthylamino-2-propane

International Non-proprietary Name
(Latin, English, French)

Chemical Name or Designation
(English, French)

natru genitas
sodium genisate
genisate de sodium

sodium 5 hydroxysalicylate
hydroxy 5 salicylate de sodium

natru morrhuas
sodium morrhuate
morrhuate de sodium

the sodium salts of the fatty acids of cod liver oil
les sels sodiques des acides gras de l'huile de foie de
morue

natru subogluconas
sodium subogluconate
subogluconate de sodium

sodium antimonylgluconate
antimonylgluconate de sodium

natru tetradecylis sulfas
sodium tetradecyl sulfate
sulfate tetradecyl de sodium

sodium 7-ethyl 2 methylundecyl-4-sulfate
éthyl 7 méthyl 2 undécyl sulfate-4 de sodium

neocinchophenum
neocinchophen
neocinchophène

ethyl 6-methyl 2 phenylquinoline-4-carboxylate
méthyl 6 phényl 2 quinoléine carboxylate-4 d'éthyle

neomycinum
neomycin
neomycine

nicopholinum
nicopholine
nicopholine

morpholine nicotinic acid amide
amide nicotinique de la morpholine

nitrofuralum
nitrofural
nitrofural

5 nitro-2 furaldehyde semicarbazone
nitro-5 furaldehyde 2 semicarbazone

nitrosulfathiazolum
nitrosulfathiazole
nitrosulfathiazol

2-(p-nitrophenylsulfonamido) thiazole
(p-nitrophénylsulfamido)-2 thiazol

noramidopyrinu methanesulfonas
natrius
noramidopyrinum methane
sulfonate sodium
méthanesulfonate sodique de
noramidopyrinium

sodium methylaminophenyldimethyl pyrazolone
methanesulfonate
méthyl amino phenyl diméthyl pyrazolone méthane
sulfonate de sodium

octamylaminum
octamylamine
octamylamine

amylaminométhylheptane
amylamino méthyl heptane

oxapropanu iodidum
oxapropanum iodide
iodure d'oxapropanum

1-dimethylaminomethylene 2,3-dioxypropane
iodométhylate
iodométhylate de diméthylamino-1 méthylène
dioxy 2,3 propane

<i>International Non-proprietary Name (Latin, English, French)</i>	<i>Chemical Name or Description (English, French)</i>
methylphenobarbitalum methylphenobarbital méthylphénobarbital	<i>N</i> methyl 5-ethyl 5 phenylbarbituric acid acide <i>N</i> méthyl phényl 5 éthyl 5 barbiturique
methylrosanilinii chloridum methylrosanilinium chloridum chlorure de méthylrosanilinium	crystal violet violet cristallisé
methylthioninii chloridum methylthioninium chloride chlorure de méthylthioninium	tetramethylthioninium chloride chlorure de tétraméthylthioninium
methylthiouracilum methylthiouracil méthylthiouracile	4-methyl 2 thiouracil méthyl-4 thio-uracile-2
metoponi hydrochloridum metopon hydrochloride chlorhydrate de métopon	7 methyl dihydromorphinone hydrochloride chlorhydrate de méthyl 7 dihydromorphinone
monoethanolaminii oleas monoethanolaminium oleate oléate de monoéthanolaminium	
nalorphinum nalorphine nalorphine	<i>N</i> allylnormorphine <i>N</i> allylnormorphine
naphazolinum naphazoline naphazoline	2-(1 naphthylmethyl) imidazoline (naphthyl 1 méthyl)-2 imidazoline
natru ascorbas sodium ascorbate ascorbate de sodium	
natru aurothiomas sodium aurothiomalate aurothiomalate de sodium	mainly the sodium salt of aurothiomalic acid principalement le sel sodique de l'acide aurothio- malique
natru cyclamas sodium cycelamate cyclamate de sodium	sodium cyclohexylsulfamate cyclohexylsulfamate de sodium
natru dehydrocholas sodium dehydrocholate déhydrocholate de sodium	

International Non-proprietary Name
(Latin, English, French)

Chemie I N me o Des ignation
(English, French)

pentobarbitalum
pentobarbital
pentobarbital

5-ethyl 5-(1 methylbutyl) barbituric acid
acide éthyl 5 (méthyl 1 butyl)-5 barbiturique

phenacemidum
phenacemide
phénacémide

phenylacetylurea
phenyl acetyl urée

phenadoxonum
phenadoxone
phénadoxone

6-morpholino-4 4-diphenylheptan 3-one
morpholino-6 diphenyl-4 4 heptanone 3

phenarsoni sulfoxylas
phenarsones sulfoxylate
sulfoxylate de phenarsones

sodium 3 amino-4-hydroxyphenylarsonate *N*
methanal sulfoxylate
amino 3 hydroxy-4 phénylarsonate *N* méthanal
sulfoxylate de sodium

phenicarbazidum
phenicarbazide
phénicarbazide

phenylsemicarbazide
phénylsemicarbazide

phenindaminum
phenindamine
phénindamine

2 methyl 9 phenyl 2 3 4 9 tetrahydro-1 pyridindene
hydrogen tartrate
tartrate acide de méthyl 2 phényl 9 tetrahydro-2,3 4 9
pyridindène 1

phenodolum natricum
phenodol sodium
phénodol sodique

sodium α phenyl β -(4-hydroxy 3 5-diiodophenyl)
propionate
 α phényl β (hydroxy-4 diodo-3 5 phenyl) propionate
de sodium

phenododecinum
phenododecinum
phénododécinium

dodecyl dimethyl 2 phenoxyethylammonium
dodécyl diméthyl phénoxy 2 éthyl ammonium

phenothiazinum
phenothiazine
phénothiazine

phenpromethaminum
phenpromethamine
phénprométhamine

N β -dimethylphenethylamine
N β -diméthyl phénéthylamine

phentolaminum
phentolamine
phéntolamine

2 (*m* hydroxy *N* *p*-tolylanilinomethyl)-2 imidazoline
(*m* hydroxy *N* *p* tolylanilino méthyl)-2 imidazoline 2

phenylbutazonum
phenylbutazone
phénylbutazone

3 5-dioxo 1 2-diphenyl-4-*n* butylpyrazolidine
dioxo-3 5 diphenyl 1 2 *n* butyl-4 pyrazolidine

<i>International Non proprietary Name</i> (Latin, English, French)	<i>Chemical Name or Description</i> (English, French)
oxophenarsini hydrochloridum oxophenarsine hydrochloride chlorhydrate d oxyphénarsine	3 amino-4 hydroxy phenyl arsenoxide hydrochloride chlorhydrate d amino 3 hydroxy-4 phénylarsénoxyde
oxycodoni hydrochloridum oxycodone hydrochloride chlorhydrate d oxycodone	dihydro oxycodone hydrochloride chlorhydrate de dihydrooxycodénone
oxydipentoni chloridum oxydipentonium chloride chlorure d oxydipentonium	5 5 bis(trimethylammonium) dipentyl ether dichloride dichlorure de 1 éther dipentyl bis (triméthylammonium) 5 5
oxyphenoni bromidum oxyphenonium bromide bromure d oxyphénonium	diethyl 2(hydroxyethyl)methylammonium bromide a phenyl- α -cyclohexylglycolate a phényl α -cyclohexyl glycolate du bromure du diéthyl (hydroxy 2 éthyl) méthyl ammonium
oxytetracyclinum oxytetracycline oxytétracycline	an antibiotic substance obtained from <i>Streptomyces rimosus</i> (terramycin) une substance antibiotique produite par <i>Streptomyces rimosus</i> (terramycine)
paramethadionum paramethadione paraméthadione	3 5 dimethyl 5 ethyloxazolidine 2 4 dione diméthyl 3 5 éthyl 5 oxazolidine dione 2 4
parathiazinum parathiazine parathiazine	pyrrolidine-ethylphenothiazine pyrrolidine éthyl phénothiazine
parethoxycainum parethoxycaine paréthoxycaine	diethylaminoethanol 4-ethoxybenzoate éthoxy-4 benzoate de diéthylaminoéthanol
paroxypropionum paroxypropione paroxypropione	4-hydroxypropiofenone hydroxy-4 propiophénone
pentaerithryli tetranitras pentaerithryli tetranitrate tétranitrate de pentaéerithrile	
pentamethonium pentamethonium pentaméthonium	pentamethylene 1 5 bistrimethylammonium pentaméthylène bis triméthylammonium 1 5
pentamidinum pentamidine pentamidine	p p -diamidino diphenoxy pentane p-p -diamidino diphénoxy pentane

International Non-proprietary Name
(Latin, English, French)

Chimical Name or Description
(English, French)

procainamidum
procainamide
procainamide

4-amino-(2-diethylaminoethyl) benzamide
amino-4 (diethyl 2 aminoethyl) benzamide

procyclidinum
procyclidine
procyclidine

1 phenyl 1 cyclohexyl 3 pyrrolidino propan 1-ol
hydrochloride
chlorhydrate de phényl 1 cyclohexyl 1 pyrrolidine 3
propanol 1

profenaminum hydrochloridum
profenamine hydrochloride
chlorhydrate de profenamine

N-(diethylaminopropyl)dibenzoparathiazine hydro-
chloride
chlorhydrate de (diethylamino-propyl)-N thiodiphé-
nylamine

proflavinum
proflavine
proflavine

3,6-diaminoacridine
diamino-3,6 acridine

promethazinum hydrochloridum
promethazine hydrochloride
chlorhydrate de prométhazine

(dimethylamino 2 methyl 2 ethyl)-N dibenzopara-
thiazine hydrochloride
chlorhydrate de [(diméthylamino 2 méthyl 2) éthyl]
N thiodiphénylamine

propamidinum
propamide
propamide

α - ω -(4,4-diamidinodiphenoxy) propane
 α - ω -(diamidino-4,4 diphenoxy) propane

propanthelinum bromidum
propantheline bromide
bromure de propanthéline

β -disopropylaminoethyl xanthene 9-carboxylate
methylbromide
bromométhylate de xanthène carboxylate 9 de
 β -disopropylaminoéthyle

propylidonium
propylidone
propylidone

propyl 3,5-diiodo-4-pyridone acetate
acétate de propyl diodo 3,5 pyridone-4

propylthiouracilum
propylthiouracil
propylthio-uracile

2 mercapto-4-hydroxy 6-n propylpyrimidine
propyl-6 thio-uracil 2

propyphenazonum
propyphenazone
propyphénazone

1 phenyl 2,3 dimethyl-4-isopropyl 5 pyrazolone
phényl 1 diméthyl 2,3 isopropyl-4 pyrazolone 5

pyridoxinum chloridum
pyridoxinum chloride
chlorure de pyridoxinum

4,5-di(hydroxymethyl)-3 hydroxy 2 methyl
pyridinium chloride
chlorure de dihydroxyméthyl-4,5 hydroxy 3 methyl 2
pyridinium

pyrimethaminum
pyrimethamine
pyriméthamine

2,4-diamino-5 p-chlorophenyl-6-ethylpyrimidine
diamino 2,4 p-chlorophényl 5 éthyl 6 pyrimidine

<i>International Non proprietary Name</i> (Latin English, French)	<i>Chemical Name or Description</i> (English, French)
phenylephrinum phenylephrine phényléphrine	1 methylaminomethyl (3 hydroxyphenyl) carbinol méthylaminométhyl 1 (hydroxy 3 phényl) carbinol
pholcodinum pholcodine pholcodine	morpholinylethylmorphine morpholinyl éthyl morphine
pholedrinum sulfas pholedrinum sulfate sulfate de pholédrium	β -(<i>p</i> -hydroxyphenyl) isopropylmethylammonium sulfate sulfate de β -(<i>p</i> -hydroxyphényl) isopropylméthylam monium
phthalylsulfathiazolum phthalylsulfathiazole phthalylsulfathiazol	(<i>o</i> -carboxybenzoyl)- <i>p</i> -aminophenyl sulfonamido- thiazole (<i>o</i> -carboxy benzoyl) <i>p</i> -amino phényl sulfamidothiazol
phytomenadionum phytomenadione phytoménadione	2 méthyl 3 phtyl 1 4-naphthoquinone (vitamin K ₁) méthyl 2 phtyl 3 naphthoquinone 1 4 (vitamine K ₂)
piperocainum chloridum piperocainum chloride chlorure de pipérocainum	3 benzoxy 1 (2 methylpiperidino) propane hydro- chloride chlorhydrate de benzoxy 3 (méthyl 2 pipéridino)-1 propane
piperoxani hydrochloridum piperoxan hydrochloride chlorhydrate de pipéroxane	2 (1 piperidylmethyl) 1 4 benzodioxan hydrochloride chlorhydrate de (pipéridylméthyl 1)-2 benzodioxane- 1 4
pidocainum pidocaine pidocaïne	β -(2 piperidyl) ethyl <i>o</i> -aminobenzoate <i>o</i> -aminobenzoate de β (pipéridyl 2) éthyle
polyvidonum polyvidone polyvidone	polyvinylpyrrolidone polyvinyl pyrrolidone
pregnenololum pregnenolone prégnénolone	3 hydroxy 20-keto-pregnene 5 hydroxy 3 céto-20 prégnène-5
primaquimum primaquine primaquine	8 (4-amino-1 methylbutylamino) 6-methoxyquinoline (amino-4méthyl 1 butylamino)-8méthoxy 6quinoléine
probarbitalum natrium probarbital sodium probarbital sodique	sodium derivative of 5-ethyl 5 isopropylbarbituric acid dérivé sodique de l'acide éthyl 5 isopropyl 5 barbiu rique

<i>International Non-proprietary Name</i> (Latin, English, French)	<i>Chemical Name of Description</i> (English, French)
solutio natri lactatis composita compound solution of sodium lactate soluté de lactate de sodium composé	synonym Ringer's lactate solution synonyme solution de Ringer lactée
stearylsulfamidum stearylsulfamide stéarylsulfamide	stearylsulfanilamide stéarylsulfanilamide
stibamini glucosidum stibamine glucoside stibamine glucoside	A glucoside of sodium 4 aminophenylstibonate N glucoside of amino-4 phenyl stibonate de sodium
stibosaminum stibosamine stibosamine	diethylamine p aminophenylantimonate p aminophényl stibinate de diethylamine
streptomycinum streptomycin streptomycine	
subathizonum subathizone subathizone	4-ethylsulfonylbenzaldehyde thiosemicarbazone thiosemicarbazone of ethylsulfonyl-4 benzaldehyde
sulfacetamidum sulfacetamide sulfacétamide	p aminophenylsulfonacetamide p aminophényl sulfonylacétamide
sulfachrysoidinum sulfachrysoidine sulfachrysoldine	diaminosulfonamidocarboxyazobenzene diaminosulfamido carboxyazobenzène
sulfadiazulfonum natrium sulfadiazulfone sodium sulfadiazulfone sodique	sodium N acetyl 2 sulfamyl-4,4 -diphenyl sulfone sodium N acétyl sulfamyl 2 diamino-4,4 diphenyl sulfone
sulfadimidinum sulfadimidine sulfadimidine	2 sulfanilamido-4,6-dimethylpyrimidine diméthyl-4,6 sulfanilamido-2 pyrimidine
sulfafurazolum sulfafurazole sulfafurazol	5 p-aminophenyl sulfonamido 3,4-dimethylisoxazole p amino phényl sulfamido-5 diméthyl 3,4 isoxazol
sulfamethizolum sulfamethizole sulfaméthizol	5 sulfanilamido 2 methyl 1,3,4-thiodiazole sulfanilamido-5, méthyl 2 thiodiazol 1,3,4

<i>International Non-proprietary Name</i> (Latin, English, French)	<i>Chemical Name or Description</i> (English, French)
pyroxylinum pyroxylin pyroxyline	soluble guncotton fulmicoton
racemethorphanum racemethorphan racéméthorphane	(±) 3 methoxy <i>N</i> methylmorphinan (±) méthoxy 3 <i>N</i> méthylmorphinane
racemorphanum racemorphan racémorphane	(±) 3 hydroxy <i>N</i> methylmorphinan (±) hydroxy 3 <i>N</i> méthylmorphinane
rutosidum rutoside rutoside	3 rhamnoglucoside of 5,7,3',4' tetrahydroxy flavonol rhamnoglucoside 3 de tétrahydroxy 5,7,3',4' flavonol
salacetamidum salacetamide salacétamide	<i>N</i> acetylsalicylamide <i>N</i> -acétyl salicylamide
salazosulfamidum salazosulfamide salazosulfamide	<i>p</i> sulfonamidophenylazosalicylic acid acide <i>p</i> sulfamido phénylazosalicylique
salazosulfapyridinum salazosulfapyridine salazosulfapyridine	4 (2 pyridylamidosulfonyl) 3-carboxy-4'-oxo- benzene (pyridyl 2 amidosulfonyl)-4 carboxy 3-oxo-4' azobenzène
salazosulfathiazolum salazosulfathiazole salazosulfathiazol	<i>p</i> aminophenylsulfonamidothiazole azosalicylic acid acide <i>p</i> amino phényl sulfamidothiazol azosalicylique
salicylamidum salicylamide salicylamide	2 hydroxybenzamide hydroxy 2 benzamide
secretinum secretin sécrétine	hormone of the duodenal mucosa which activates the pancreatic secretion and lowers the blood sugar level hormone de la muqueuse duodénale à action sécré- toire pancréatique et hypoglycémisante
solutio natrii chloridi composita compound solution of sodium chloride solute de chlorure de sodium composé	synonym Ringer's solution synonyme solution de Ringer

International Non-proprietary Name
(Latin, English, French)

Chemical Name *Designation*
(English, French)

thiodiglycolum
thiodiglycol
thiodiglycol

2,2-dihydroxyethyl sulfide
sulfure de dihydroxyéthyle 2,2

thiomersalum
thiomersal
thiomersal

sodium ethylmercurithiosalicylate
éthylmercure thiosalicylate de sodium

thonzylaminii chloridum
thonzylaminium chloride
chlorure de thonzylaminium

N N-dimethyl *N* (*p* methoxybenzyl) *N* (2 pyrimidyl)
ethylenediamine hydrochloride
chlorhydrate de *N N*-diméthyl *N* (*p* méthoxybenzyl)
N-(pyrimidyl 2) éthylenediamine

tocamphylum
tocamphyl
tocamphyl

diethanolamine salt of tolylmethyl carbinol mono-
D-camphoric acid ester
sel de diéthanolanine de l'ester mono-*D*-camphorique
de tolylméthyl carbinol

tolazolum
tolazoline
tolazoline

2-benzylimidazoline
benzyl 2 imidazoline

trichloroethylenum
trichlorethylene
trichlorethylène

trihexyphenidyl hydrochloridum
trihexyphenidyl hydrochloride
chlorhydrate de trihexyphénydyle

1-cyclohexyl 1 phenyl 3 piperidino-1 propanol
hydrochloride
chlorhydrate de cyclohexyl 1 phényl 1 pipéridino-3
propanol 1

trimethadionum
trimethadione
triméthadione

3 5 5 trimethyloxazolidine 2 4-dione
triméthyl 3 5 5 oxazolidine dione 2 4

tripeleennamini hydrochloridum
tripeleennamine hydrochloride
chlorhydrate de tripeleennamine

N benzyl *N N* dimethyl *N* 2 pyridyl-ethylenedia-
mine hydrochloride
chlorhydrate de benzyl-(α pyridyl) diméthyléthylène
diamine

tuaminoheptanum
tuaminoheptane
tuaminoheptane

1 methylhexylamine
méthyl 1 hexylamine

tubocurarii chloridum
tubocurarine chloride
chlorure de tubocurarine

D-tubocurarine chloride
chlorure de *D*-tubocurarine

tyrothnicum
tyrothricin
tyrothricine

<i>International Non proprietary Name (Latin, English French)</i>	<i>Chemical Name or Description (English, French)</i>
sulfapyridinum sulfapyridine sulfapyridine	2 sulfanilamidopyridine sulfanilamido 2 pyridine
sulfathiourea sulfathiourea sulfathio urée	<i>p</i> -aminophenylsulfonylthiourea <i>p</i> aminophényl sulfonyl thio urée
sulfisomidinum sulfisomidine sulfisomidine	2,4 dimethyl 6-sulfanilamidopyrimidine diméthyl 2,4 sulfanilamido 6 pyrimidine
sulfogaiacolum sulfogaiacol sulfogaiacol	potassium guaiacolsulfonate gafacolsulfonate de potassium symmetrical urea of the sodium salt of <i>m</i> -benzoyl <i>m</i> -amino- <i>p</i> -methylbenzoyl 1 aminonaph thalene 4,6,8 trisulfonic acid urée symétrique du <i>m</i> -aminobenzoyl <i>m</i> -amino <i>p</i> méthylbenzoyl 1 naphtylamino 4,6,8 trisulfonate de sodium
suraminum natrium suramin sodium suramine sodique	bis (2 dimethylaminoethyl)succinate bismethochloride diméthochlorure de succinate de bis-(diméthylamino- 2 éthyle)
suxamethoni chloridum suxamethonium chloride chlorure de suxaméthonium	bis (2-dimethylaminoethyl) succinate bisethochloride diéthochlorure de succinate de bis (diméthylamino- 2 éthyle)
tetrylammoni bromidum tetrylammonium bromide bromure de tétrylammonium	tetraethylammonium bromide bromure de tétraéthylammonium
thiacetarsamidum natrium thiacetarsamide sodium thiacétarsamide sodique	disodium salt of <i>p</i> -[bis (carboxymethyl mercapto) arsino] benzamide sel disodique de <i>p</i> -[bis (carboxy méthyl mercapto) arsino] benzamide
thiamazolum thiamazole thiamazole	1 methyl 2 mercaptoimidazole méthyl 1 mercapto 2 imidazole
thiazosulfonum thiazosulfone thiazosulfone	2,4 -diaminothiazolylphenylsulfone diamino-2,4 thiazolyl phényl sulfone
thioacetazonum thioacetazone thioacétazone	4-acetamidobenzaldehyde thiosemicarbazone acétamido-4 benzaldéhyde thiosemicarbazone



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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<i>International Non-proprietary Name</i> (Latin English, French)	<i>Chemical Name or Description</i> (English, French)
urethanum urethane uréthane	ethyl carbamate carbamate d'éthyle
vanyldisulfamidum vanyldisulfamide vanyldisulfamide	4-oxy 5 methoxy 1 benzylidene-bis (aminophenyl sulfonamide) oxy-4 méthoxy 5 benzylidène 1 bis (aminophényl sulfamide)
vinbarbitalum vinbarbital vinbarbital	sodium derivative of 5-ethyl 5 (1 methyl 1 butenyl) barbituric acid dérivé sodique de l'acide éthyl 5 (méthyl 1 butényl) 5 barbiturique

Comments on or formal objections to, any of the above names may be filed within a period of six months from 1 November 1953, and should be forwarded to

The Director General
World Health Organization
Palais des Nations
Geneva
Switzerland

INCREASED PRODUCTION OF ANTIBIOTICS AND INSECTICIDES

A Venture in International Aid

In July 1953 WHO transferred to the United Nations Technical Assistance Administration the responsibility for aiding six countries in the production of antibiotics or insecticides. The event attracted no public notice but it brought to a close one of the most daring and successful endeavours of the Organization. UNICEF, as well as WHO played a part in this enterprise which is increasing the availability of two products vitally important to public health. WHO/UNICEF assistance in the modernization or construction of antibiotics plants is making possible the production of sufficient penicillin to cure at least 2.5 million cases of syphilis a year or many more cases of other diseases and the DDT produced in WHO/UNICEF aided plants will afford protection against malaria and other insect borne diseases to approximately 25.5 million persons annually. This achievement is the culmination of three years' work on the part of WHO and has meant an expenditure of more than six million dollars by the governments of the countries concerned. UNICEF and WHO.

There were more requests for aid than could be met. The Organization established certain criteria for granting assistance to countries in the production of antibiotics and insecticides. Specifically to qualify for assistance a country had to be able to show that

- (1) there were available in the country personnel of a type which could be trained for work in antibiotics and insecticides production
- (2) it would match the financial value of the equipment donated
- (3) it could make satisfactory use of the products of the plant in relation to national health needs—the production had to be devoted to public health needs
- (4) it would accept guidance from WHO as to process methods and keep the plant open for visits by WHO experts and for the training of Fellows from other countries

Antibiotics

The need for antibiotics far outstrips the supply. From a public health viewpoint the most urgent demand is in the treatment of venereal and treponemal diseases particularly in mass control campaigns. For example

SCHEDULE OF MEETINGS

- | | |
|----------------------------|--|
| 19 October
7 November | Committee on International Quarantine first session Geneva |
| 20 October
13 November | Joints FAO/UNICEF/WHO Group Training Course on the Control of Milk Quality and Processing Rome |
| 2 6 November | FAO/WHO/Josiah Macy Foundation Meeting on Protein Malnutrition, Kingston Jamaica |
| 2 14 November | Seminar in the Caribbean Area on Brucellosis, Mexico, D F |
| 22 November
5 December | Seminar on Mental Health Beirut |
| 23 November
1 December | Expert Committee on Onchocerciasis first session Mexico D F |
| 30 November
4 December | Expert Committee on Tuberculosis sixth session Copenhagen |
| 30 November
11 December | Seminar on Reporting of Communicable Diseases in the Americas, Santiago |
| 7 11 December | Expert Committee on Health Education of the Public first session Paris |
| 10 11 December | International Antivenereal Diseases Commission of the Rhine |
| 14-15 December | Technical Advisory Committee Family Worker Study, London |

syphilis as recommended by the Expert Committee on Venereal Infections and Treponematoses this production will mean that 1 875 000 cases may be cured annually

Two countries have had WHO/UNICEF aid in improving the antibiotics production capacity of plants already in existence. In Yugoslavia a small experimental plant built in 1946 was modernized and brought into full production. UNICEF allocated \$90 000 for new equipment. The renovation of the plant has meant that production may be increased to as much as 100-150 billion international units of penicillin per month in late 1953. This will help meet Yugoslavia's needs for penicillin to combat endemic syphilis and other diseases which necessitated the importation of 600 billion international units of this antibiotic in 1950. At the same time that this production has been achieved much needed local personnel has been given training through fellowships which will enable them to operate the plant and to do research.

The second country to benefit from UNICEF/WHO aid in improving antibiotics production facilities was Chile which for some years has maintained an active interest in this production through its Instituto Bacteriologico de Chile. By 1951 Chile had a pilot plant which would produce 15 billion international units of penicillin per month but this amounted to only 10 % of the actual needs. Through UNICEF/WHO financial and technical aid penicillin production will be increased in 1954 to 150 billion international units of penicillin per month—enough to satisfy the nation's requirements as estimated in 1951.

Another aspect of WHO's aid in increasing the supplies of antibiotics is a training and research programme. Accordingly the Organization has recognized as a research and training centre the Istituto Superiore di Sanità, Rome, to which Fellows are sent for training which will enable them to take part in work in their own countries. The Istituto has an antibiotics plant in production and can therefore provide actual operating experience for future technicians and research workers.

Insecticides

The availability of insecticides—DDT in particular—represents another public health problem. The value of residual action insecticides in fighting insect borne diseases, malaria especially, has been more than proven in large scale control projects in recent years.

As was the case with aid in the production of antibiotics WHO was able to undertake actual operations in assisting in insecticides production only when Technical Assistance funds became available and with UNICEF participation. In this instance too certain criteria had to be established for

in UNICEF/WHO treponemal disease control efforts in six widely separated countries approximately 2 million of the estimated total of 5 million persons examined have been given penicillin treatment

WHO became interested in the problem of antibiotics production in 1948, when it was a subject of discussion at the First World Health Assembly¹ But it was the advent of the Technical Assistance programme, in 1950, that led to the initiation of actual aid

For both financial and constitutional reasons, WHO had to be limited to technical advice and assistance The Organization's work included

- (1) preparing plans for the buildings to house the actual plants,
- (2) designing and blue printing equipment for fermentation, extraction, compounding of clinical preparations, and filling and packaging,
- (3) designing the necessary auxiliary services, i.e., water, steam air, refrigeration, air conditioning, and effluent disposal,
- (4) developing precise specifications for all items of equipment, with blue prints giving quantitative and qualitative flow diagrams,
- (5) preparation of details regarding essential raw materials
- (6) furnishing details of process requirements, covering fermentation and filtration extraction, and purification the preparation of clinical products, and all the laboratory procedures involved,
- (7) preparation of detailed laboratory (both production and research) plans together with laboratory equipment lists
- (8) providing reliable estimates of all costs and
- (9) maintaining overall technical guidance in the various phases by the provision of skilled personnel

This work applied particularly to a plant constructed in India—the first antibiotics plant in all of South East Asia This plant located at Poona (near Bombay) has been constructed in conformance with plans and blue prints prepared by WHO experts and with the financial assistance of UNICEF and WHO The Government of India in addition to assuming the financial burden for buildings and services is providing personnel to be trained

The productive capacity of this plant was originally planned to be 400 billion international units of penicillin per month However the development of higher producing strains together with other recent technological improvements to be utilized in the plant will increase the anticipated production to more than 800 billion international units per month with no increase in the size of the plant In 1954 the first Indian made, purified and packaged penicillin will be available In terms of the treatment of

It is not expected that the plant will be in operation before 1955. This time lag is necessitated by the period required for the Government to install related industries such as a caustic soda plant to supply chlorine, an essential ingredient. By that year, however, the combined efforts of the Government, UNICEF and WHO will have assured the ultimate control—perhaps even eradication—of malaria in Ceylon.

Egypt

Insect control is a serious problem in Egypt, not only because of malaria, but also because of numerous other insect-borne diseases—trachoma, the enteric fevers, relapsing fever, typhus and others. Furthermore, the public health problems of Egypt are of concern to other nations because of its close proximity to three continents and because of the constant stream of travellers passing through the country.

When the Government applied for WHO/UNICEF aid in DDT production, it had already undertaken DDT spraying operations and had developed a five-year programme for the unification of insect-control measures, calling for more than 2 000 tons of technical DDT per year. During the period 1947-51, more than 300 tons of DDT and 100 tons of Gammexane had been imported, but the Government was in no position to expand this effort, which would have to be continued at the same level if the progress achieved was to be maintained. It was found that the total cost of producing DDT in Egypt would be less than the price of imported DDT alone, not to mention shipping charges. For these reasons, WHO/UNICEF aid in the construction of a DDT plant was agreed upon.

The site chosen for the plant was Kafr El Zayat, which is approximately midway between Cairo and Alexandria, on the Nile, and adjacent to excellent rail connexions. Local producing plants will provide the necessary raw materials, except for benzene, which the Government has undertaken to import until national possibilities can be developed. With comparatively little international assistance, Egypt will, by the spring of 1954, have locally produced DDT in a quantity sufficient to protect more than half its population against insect-borne diseases.

India

In India, the efficacy of DDT in malaria control has been well demonstrated. In the Dharwar and Kanara districts of the State of Bombay, for example, DDT spraying over a period of five years cut the incidence of malaria by nearly 90%. In the spraying season of 1950-1, India was able to import up to about 750 tons of DDT, but this amount was quite insufficient to meet the annual needs of the country—estimated by WHO experts at approximately 10 000-15 000 tons.

granting aid to countries—aid in the form of construction of DDT production plants

1 The recipient country had to be largely malarious

2 It had to have within reasonable accessibility the essential raw materials for the production of DDT, or to undertake to make them available

3 It had to have a sound antimalaria programme already in operation

4 The government had to make financial commitments similar to those for recipients of aid in respect to antibiotics production

The recipient country agreed to (a) assume responsibility for all capital costs except for imported equipment for the DDT plant (b) operate the plant on a non profit basis, (c) ensure the use of the product for public health work and (d) accept candidates from other countries for training in insecticides production

Following surveys made in countries requesting aid four countries were designated to receive technical assistance through the provision of DDT plants Ceylon, Egypt India, and Pakistan All of the plants which were planned for these countries under the auspices of WHO/UNICEF, are basically the same When in full production each will produce 2 tons of 100% technical DDT a day, or 700 tons a year Some idea of what this may mean can be gained from the fact that, as recently as three years ago, Pakistan imported only 37.5 tons of DDT annually

Ceylon

Malaria is a major public health problem in Ceylon Before the introduction, in 1945 of DDT as the basis for antimalaria campaigns, one out of three if not every second person, suffered from this disease control efforts have brought this figure down to one person out of every twelve The achievements of the insect control programme in Ceylon are also reflected in a reduction in infant mortality from 141 to 87 per 1 000 in the period 1946-9 in maternal mortality from 15.5 to 6.5 per 1 000 live births, and in the national death rate from 22.7 to 12.6 per 1 000 inhabitants per year Much of this accomplishment may be attributed to the use of DDT, of which 500-600 tons were imported annually

Because of the obvious need for DDT the Government's already noteworthy achievements in combating malaria and its ability to meet the criteria agreed upon by UNICEF and WHO Ceylon was approved as a recipient for aid in DDT production in the spring of 1951 The Government undertook to make a single major investment which, though considerable, would eventually mean a saving since the importation of even an insufficient quantity of DDT entailed an annual expenditure of an equal if not greater amount

THE WHO FELLOWSHIPS PROGRAMME

For more than six years the World Health Organization has been carrying on a fellowships programme¹ A total of 2 855 fellowships had been granted as at 31 December 1952 (40% being in 1952) The Fellows came from 115 countries and territories 79 countries and territories offered facilities for their training The maps in fig 1 show their distribution by country of origin and country of study Future expectations for the programme are shown by the monies budgeted for 1954 which are estimated at a total of \$2 912 867 (\$931 451 from the regular budget of WHO)

What Is Meant by WHO Fellowships

A fellowship means the acceptance by WHO of an individual on the recommendation of his government² as a person who given the opportunity to study abroad will increasingly contribute towards furthering the objectives of his government and of WHO i.e. the attainment by all peoples of the highest possible level of health The award of a fellowship by WHO implies providing the Fellow with the financial means required for advanced studies abroad and making the necessary arrangements with the most appropriate institutions

A decision of the Sixth World Health Assembly makes it possible under certain conditions for individuals to be awarded fellowships in order to study not abroad but in their own country However this is only an exception to the rule—an exception easily understood when it is added that instead of having the Fellows go abroad to find the experts the latter come to the Fellows' country and participate in the organization of national courses It is planned thus to promote the establishment of needed permanent training courses within the country itself

Who the Fellows Are

Practically all those to whom WHO fellowships are awarded are professional people mostly physicians (2 044 or 72 %) nurses (313 or 11 %) and sanitarians (176 or 6 %) with a few from other allied professions (322 or 11 %) In the great majority they are men (2 260 or 79 %) Most of the Fellows are about 40 years old (—25 134 or 5% 25–34 746 or 26% 35–44 1 061 or 37% 45–54 649 or 23% 55+ 177 or 6%)

¹ For a full description of the WHO fellowships programme see World Health Organization (1953) *WHO Fellowship Programme* Informal booklet G 2
² All applications for fellowships are recommended on WHO forms issued by the administrative and health committees of the governments of the countries of origin of the applicants. Applications for fellowships are also made by health departments of the countries of origin.

WHO and UNICEF decided to grant aid to India in constructing a DDT plant to help to meet this enormous need and to provide a training ground for both Indian technicians and others from abroad. On the recommendation of WHO New Delhi was selected as the most suitable site largely because of the accessibility of the basic raw materials. Here, with relatively little international technical assistance, India will have production facilities of its own and will be able to train national personnel without outside assistance should the operation be enlarged.

Pakistan

By conservative estimates 25 million people out of a total population of 80 million suffer from malaria annually in Pakistan. Since Pakistan already had an antimalaria programme in progress and agreed to meet other WHO and UNICEF conditions, aid in constructing a DDT plant was granted.

To meet the requirement with regard to availability of raw materials the Government of Pakistan is erecting a caustic soda plant, assuring an ample supply of chlorine and providing steam needed in DDT production. Other raw materials are being made available from various sources for the present, but they may eventually be provided at the site of the DDT plant as a chemical industry develops. All this represents a considerable outlay of money for the Government—the soda and chlorine plant alone is costing the equivalent of \$1 500 000. This expenditure means, however, that with international aid a DDT plant will be constructed which in 1954, will be producing enough DDT to protect more than six million persons from malaria.

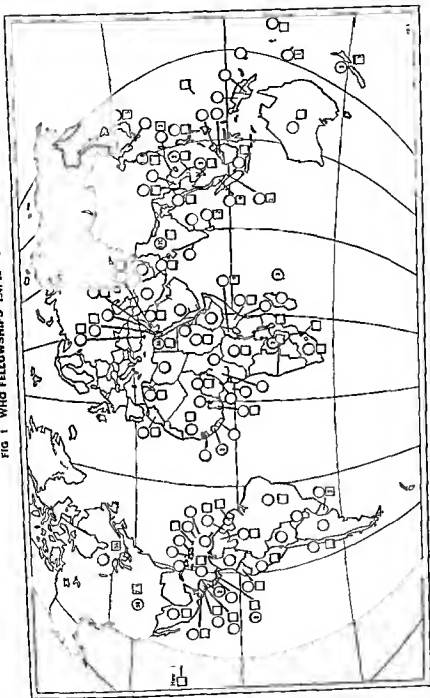
* * *

The venture here described involved a total expenditure on the part of WHO of only \$209 633 over a three year period (1950-3). However the proposals submitted by governments and developed by WHO have been aided by UNICEF contributions of \$2 225 000 while the six governments have committed approximately \$3 973 000. The results of this combined effort will have far reaching effects on public health, not only because of the increased availability of essential products but also because of the training facilities which the antibiotics and DDT plants will provide for technicians from a number of countries.

**WHO Seals
Available**

World Health seals for 1954 are now available and if desired for distribution in time for World Health Day (7 April 1954) should be requested from the Organization by 1 November 1953.

FIG 1 WHO FELLOWSHIPS 1947-52 ~ 1



○ Number of Fellows originating from the country
 □ Number of Fellows received for study visits (Note: The same Fellow may visit more than one country of study)

undetermined 88, or 3%) They are persons of experience in the fields they wish to study further abroad, often professors in universities and directors of services However, in a few exceptional cases (91 awards, or 3%) the Fellows are very young persons who are intended to form the nuclei of professional personnel in their own countries which lack appropriate training facilities³ the fellowships in such cases being awarded for undergraduate studies in medicine and allied professions

Subjects of Study

As is to be expected, the great majority of the Fellows (85%) study various aspects of public health and preventive medicine, while some study clinical subjects (12%) and basic medical sciences and medical education (3%) To those studying public health and preventive medicine belong the Fellows who study public health administration (10%), sanitation (7%) nursing (7%), maternal and child health (10%), and communicable diseases (28%) Other health subjects—such as mental health occupational health nutrition, health education of the public, rehabilitation of the handicapped dental hygiene, etc—account for the rest (22%) These different subjects of study are in general, related to the various projects in which WHO is assisting the governments

Purpose of the Fellowships Programme

It may be said that the main purpose of the fellowships programme is to assist selected health personnel from the countries concerned to obtain first hand knowledge or experience abroad which would be applicable in developing improved standards in the medical and health services and the teaching institutions of their own countries However, there are three other by products of the fellowships programme which cannot be ignored, these are international understanding international exchange of scientific information and promotion of teaching facilities

It was the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel which at its first session, in February 1950⁴ stated that the fellowships programme is rightly considered one of the most valuable means of promoting international understanding and of developing improved medical and health standards of all nations The Executive Board in a recent study⁵ referred to the development of "a network of former Fellows for the dissemination of scientific information Some details concerning the promotion of teaching facilities are to be found in the following section

³ See for example, *Full Wld Hlth Org* 1952, 6 331
Wld Hlth Org techn Rep Ser 1950 22, 14
Off Rec Wld Hlth Org 46 144

tion of Fellows who are active in personnel training programmes thus passing on to others what they have acquired during their studies abroad. Reference is made elsewhere to the possible influence of fellowships in promoting the establishment of training facilities, courses etc. Some of the courses have features of permanency such as a one year anaesthesiology course in Copenhagen and a one year antibiotics course in Rome both running for a number of years. Others are non-recurring. A total of 874 fellowships or 31% have been granted for attending the scores of courses and similar group training programmes organized wholly or in part by WHO or assisted by it. WHO contributes to the promotion of such training programmes by securing an adequate number of enrolments from all parts of the world, paying tuition fees for attending Fellows or assisting with personnel.

Problems of the Fellowships Programme

There are three major difficulties besetting the fellowships programme apart from the purely administrative ones.

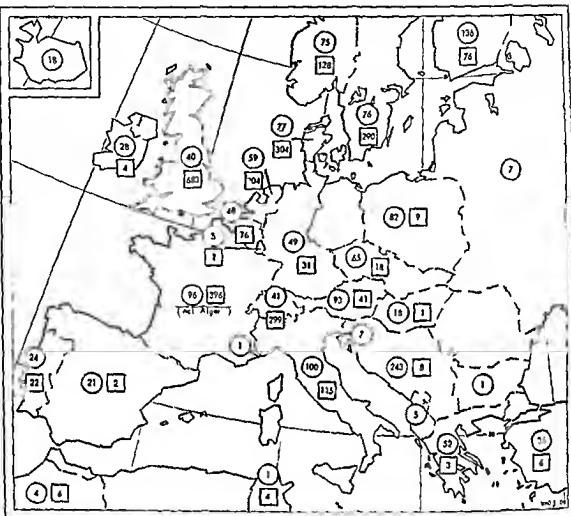
First and foremost is the proper selection of the candidate by the requesting government. The selection covers such matters as professional qualifications for the proposed studies, adequate knowledge of the language in which the Fellow will study, personality of the Fellow—who in a way is an unofficial representative of his country and his countrymen—and clear understanding as to exactly what the Fellow is going to do when he returns home and therefore on what he should concentrate during his studies.

The second difficulty refers to study arrangements: arranging a programme appropriate to the Fellow's background and to his future work; selecting the most suitable country and institution(s); securing a place for the Fellow in institutions and with leading persons hard pressed for time and available facilities. There is also the question of providing for someone to visit the Fellow during his studies in order to discuss his problems and assist him in his difficulties and assist in making necessary readjustments in his programme.

The third difficulty arises when the Fellow returns home at the end of his studies. Is he given the job for which he has been preparing? Does he get support in his endeavours to improve the job he was doing in the light of what he has seen during his fellowship studies? Can he make the necessary personal adjustments and adapt foreign ideas and methods to the conditions of his country? Can he overcome resistance to new ideas and influence and teach others? Some of these questions are obviously linked with proper selection.

These difficulties and others are very serious for the success of the Fellows and of the fellowships programme. If they are usually overcome it

FIG 1 WHO FELLOWSHIPS 1947-52 - II



○ Number of Fellows originating from the country
 □ Number of Fellows received for study visits (Note: The same Fellow may visit more than one country of study)

Achievements of the Fellowships Programme

In order to evaluate the programme an attempt has been made to keep in contact with the Fellows for two years after they return home and to obtain, at the end of that period reports from the governments on the utilization of former Fellows. The number of fellowships thus studied is too limited to permit of the presentation of statistical data at this stage. The figures available tend to show however, that, except in very rare instances the purpose of the fellowship is being achieved and that the Fellows are contributing in a number of ways to the strengthening of the health services of their countries. Impressive is the propor

THE WORLD HEALTH ORGANIZATION AND MEDICAL LIBRARIANSHIP *

The place of medical library services in the work of WHO is still in the experimental stage. The service so far developed has tended for obvious reasons to face inwards and to have concentrated on the essential and at the same time easier task of providing the WHO specialist with what he requires. This may meet the needs of WHO but it does not go far to meet the needs of the world for rapid, easy and economical access to the knowledge available in medical and scientific literature. Experience however has shown that the problems of medical documentation are confused, that they are not susceptible to easy solution, that they vary from one country to another and that the solution for one country is usually not applicable to another. The difficulties which arise are sometimes the result not of an absolute lack of medical literature but of the means of easy access to what is already available. In some areas old attitudes to libraries may have to change before any major developments in medical library services can be expected. However a start has been made and there are good prospects for the further development of medical library and documentation services, the importance of which WHO fully recognizes in the strengthening of national health institutions and administrations.

Supply of Medical Literature

The Second World War created impassable barriers to the general exchange and supply of medical literature and part of the medical relief programme of UNRRA was devoted to the assistance of medical libraries in war devastated areas. During the two years intervening between the signing of the WHO Constitution and of its coming into effect the Interim Commission took over UNRRA's work for the health rehabilitation of 13 UNRRA-aided countries and the supply of medical literature has continued under certain specific conditions to form part of WHO's normal programme.

Thus since its inception WHO has provided considerable quantities of medical literature to Member Governments for the libraries of medical and health institutions especially those concerned with the education and training of professional, technical and other public health personnel. By the end of 1952 WHO had supplied over 30 000 books and nearly 11 000 periodicals subscriptions as well as many hundreds of reprints, photostats and microfilms. These have assisted in replacing collections destroyed or damaged during the war, in rehabilitating inadequate or outdated libraries and in furnishing nuclear collections to countries where standards of

* Based on a address by the Chief of the Library & Reference Section (WHO) to the First International Congress on Medical Librarianship, London, 10-13 July 1953 which will appear in *Lib. J.*

is because of the attention paid to fellowships by the requesting governments, the quality of the Fellows, and the wholehearted co-operation of the countries of study, their institutions and their personnel

Conclusion

A substantial part of the funds devoted to assistance to governments for strengthening their health services is used for fellowships. Fellowships are a means of assistance highly appreciated by the countries and more widely used than any other. The data so far gathered seem to confirm the prevailing opinion as to the value of the fellowships. The evaluation, however, is strongly subjective. It may be appropriate to quote here the statement made by Mr. Chester I. Barnard, President of the Rockefeller Foundation which has more than a third of a century's experience in this field:

Fellowships are uncontrolled experiments in the sense that the kind of record that might have been established without the fellowship remains unknown. Since the aim initially is to choose outstanding individuals, it is safe to assume that many of these young persons would have had distinguished careers even without the help of a fellowship. It would therefore be wholly unwarranted to credit to the fellowship itself the proud record made by scores upon scores of Rockefeller Foundation fellows. Fellowship holders themselves affirm, however, that the fellowship experience, wisely planned and coming at a crucial developmental juncture, can contribute significantly to future achievement." *

The Rockefeller Foundation (1953) *Director of Fellowship Award, 1911-1950* New York, p. VI

Technical Assistance through Provision of Personnel and Fellowships

WHO fellowships awarded under the Technical Assistance programme numbered 555 in the period from the beginning of 1951 to July 1953: the awards, by year, being 1951: 85, 1952: 371 and 1953: to 30 June 99. The Fellows were from 71 countries and their studies were arranged for in 34 countries.

With regard to technical personnel provided by WHO under the Technical

Assistance programme the total number at the end of July 1953 was 472—147 being assigned in 1951, 220 in 1952, and 105 during the first seven months of 1953. Forty-two countries and territories were represented by these staff members, and in 1952 the governments of 49 countries were assisted in their programmes of technical assistance for economic development.

Member Governments advice concerning their particular requirements for the adequate development of medical library services especially in conjunction with long term WHO plans for strengthening national health institutions and administrations

Problems of Medical Documentation

The problems of the bibliographical control of current medical literature have been of international concern for a number of years and WHO participated together with UNESCO in the work of the Co ordinating Committee for Abstracting and Indexing in the Medical and Biological Sciences during its four years of existence. The committee's main concern was with problems of coverage and duplication in the principal medical and biological abstracting services and it must be frankly admitted that its efforts to promote co operation and co ordination did not meet with the success they deserved. The interests of this committee have now been taken up by the Council for the International Organizations of Medical Sciences and a meeting was held in Geneva in August 1953 with representatives of UNESCO and WHO and invited independent experts to consider what international action might advantageously be taken in this difficult subject.

In addition however to problems of coverage and duplication of effort there is that of information on available sources for not all the existing medico bibliographical sources are sufficiently known or are used to their fullest extent. In an attempt to remedy this and to bring them fully to the attention of the WHO staff WHO has recently issued in mimeographed form a bilingual (English French) guide to the indexing and abstracting journals in the medical and allied sciences available in the WHO library. This is an alphabetical list of titles with a subject index giving detailed information as to publisher price periodicity date first issued coverage number of entries or abstracts published annually number of periodicals regularly indexed or abstracted etc. Although this is intended primarily for WHO internal use copies may be supplied on request to any medical or university library.

Development of Medical Library Services

While the supply of current medical literature is an indispensable aid to the development of health services it cannot however make its full contribution in the absence of adequate medical library services staffed by trained professional librarians. That WHO recognizes its responsibilities to assist in the formation of medical librarians is shown by the grant of fellowships to medical librarians to study outside their own country. Eleven

medical education and of health services are below average. They have served too, to keep up to date in basic foreign medical literature libraries in those countries with very limited funds to spend in external purchases.

The WHO Library

The necessity for a library was recognized in December 1946 in the earliest days of the Organization and since its establishment the WHO library has grown rapidly. Today, thanks in part to the inheritance of the library of the Office International d'Hygiène Publique, it contains over 30 000 volumes in addition to a very large collection of reprints, official documents and government reports. Although a representative collection is maintained of modern works in several languages on all branches of medicine, special emphasis is naturally placed on public health (including nursing, veterinary, nutritional and mental health aspects), environmental sanitation, communicable diseases and therapeutic substances. Over 1 600 current periodicals are received, about 1,000 being in exchange for WHO publications. A list of these is issued annually.

One technical problem which had occupied the library since its inception—that of classification—was resolved only last year. Several well known medical classification schemes were examined, all had their advantages and disadvantages and it was decided that the Barnard system, designed as it is particularly for a public health library, best met the requirements of WHO.

The international character of WHO's work demands a library staff not only trained in medical librarianship but also representative of as large a number as possible of nationalities and languages. Thus, the staff of 18, nine of whom are trained librarians, includes American, Belgian, British, Costa Rican, Dutch, French, Greek, Norwegian, Polish, and Swiss workers, and the most important languages of medical publication are adequately covered.

The functions and responsibilities of the WHO Library and Reference Section are much wider than those of a normal library service. WHO is now a fully regionalized organization and in addition to its Headquarters and the European Regional Office in Geneva, has Regional Offices in Alexandria, Brazzaville, Manila, Washington and New Delhi, as well as teams working in remote areas all over the world. This regionalization has inevitably presented the library service with a number of problems.

The library is expected to provide this scattered Secretariat with the comprehensive medical documentation service which is essential for the efficient execution of their technical duties and on request to extend this service to the health departments and institutions of WHO Member Governments. Furthermore, the library is responsible for advising upon and for procuring medical literature supplied to WHO Member Governments, Regional Offices and field teams. Finally, it is expected to give WHO

TURKEY REINFORCES ITS TUBERCULOSIS-CONTROL SERVICES

The real and lasting efficacy of the technical assistance given to a country by an international organization cannot be assessed until some months after the departure of the teams of experts who temporarily assume direction of the work. The value of the international collaboration is not to be judged so much by the actual accomplishments of the experts during their stay in a country as by the subsequent activities and concrete achievements following their departure but resulting from their work.

Dr Etienne Berthet who for two years (from May 1950 to May 1952) directed the WHO tuberculosis-control team in Turkey visited the country again ten months after he had left it. He found that the work begun during his sojourn there had been not only continued but also intensified and that there had been no slackening of the efforts of the Turkish Government and the private antituberculosis associations. There follow extracts from a report which he submitted to WHO following his visit to Turkey.

Activities of the Istanbul Tuberculosis-Control Demonstration and Training Centre

Since the departure of the international specialists the Istanbul Tuberculosis Control Demonstration and Training Centre has been under the direction of Professor Tewfik Saglam. Three Turkish phthisiologists work at the Centre full time and the laboratory is headed by a Turkish professor. A French Red Cross nurse engaged by the Istanbul Antituberculosis League has assumed charge of the team of Turkish nurses working at the Centre and is continuing their training. Two X ray technicians, a laboratory assistant and medical secretaries complete the staff of the Centre.

Training of personnel

The training of medical and auxiliary personnel for work in tuberculosis control remains one of the major objects of the Istanbul Centre. Training courses on the medico social aspects of tuberculosis are being continued. Three complete courses have been organized—in May June 1952, October November 1952 and May 1953, four courses had previously been given.

Twice a week patients are presented as subjects for clinical, radiological and therapeutic discussions and these sessions are open to all Turkish physicians who wish to improve their knowledge of tuberculosis. Each month there are meetings of clinic physicians and visiting nurses to consider technical and professional questions. Practical training in clinics, home visiting and social services are arranged regularly for Istanbul nurses and student nurses. Instruction in the prevention of tuberculosis is given

such fellowships have already been awarded and seven of the Fellows have spent a portion of their period of study working in the WHO library

Another important development was the appointment in January 1952 of a medical library consultant to the WHO Regional Office for Europe to survey and report upon medical library services in certain European countries, with special emphasis on the encouragement of central medical library organization and the elimination of unnecessary overlapping and duplication. Study visits were made to six countries in 1952—Austria, Finland, Greece, Norway, Sweden, and Yugoslavia. Plans have been made for holding a European seminar for medical librarians in 1955, designed primarily to meet the needs of those who are in posts of responsibility in European medical libraries but who have not had adequate library training. As considerable preparation will be necessary for the successful organization of this seminar, a small ad hoc advisory committee met in Geneva in July 1953.

Other WHO Regional Offices may decide to follow the example set by the European Office and to survey medical library facilities within their area and within each country in the area, with a view to encouraging the development of at least one adequate medical library. WHO can play an important part in the development of such central libraries by providing the services and advice of consultants, by the award of fellowships, and by the organization of regional seminars and of assistance from the WHO library in Geneva. The central medical library in each country would be expected to provide advice and services to other medical libraries and to take the initiative in establishing a union catalogue of periodicals and a system of inter library co-operation in acquisitions and loans.

A full account of the medical literature programme of the WHO Regional Office for Europe is to be found in the *UNESCO Bulletin for Librarians* 1953 7 E73

Corrigenda to International Pharmacopoeia

Corrigenda to volume I of the *Pharmacopoea Internationalis* have been issued and are available free of charge upon request to the World Health Organization, Palais des Nations, Geneva.

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Training of personnel

The training of medical and auxiliary personnel for work in tuberculosis control remains one of the major objects of the Istanbul Centre. Training courses on the medico social aspects of tuberculosis are being continued. Three complete courses have been organized—in May June 1952, October November 1952 and May 1953, four courses had previously been given.

Twice a week patients are presented as subjects for clinical, radiological and therapeutic discussions and these sessions are open to all Turkish physicians who wish to improve their knowledge of tuberculosis. Each month there are meetings of clinic physicians and visiting nurses to consider technical and professional questions. Practical training in clinics, home visiting and social services are arranged regularly for Istanbul nurses and student nurses. Instruction in the prevention of tuberculosis is given

particularly to health officer medical auxiliaries who have had three years of medical study and who are responsible in the villages, for the control of infectious diseases by vaccinations, disinfection, etc. They are now required to do practical work for thirty days at the Centre.

Finally the Centre's library is being improved, the number of works in foreign languages is steadily increasing.

Medico social activities

The medico social activity of the Centre is continuing regularly. To give an idea of the work during the last seven months of 1952 the following figures are cited:

1 In the epidemiological service 16 434 X rays were taken. Mantoux (5 TU) tests numbered 7,688 of which 1,004 gave negative results and were followed by BCG vaccination.

2 There were 4 008 consultations at the Centre's antituberculosis clinic. 399 new cases of tuberculosis were diagnosed and 498 home visits were made.

Development of Tuberculosis Control in Turkey

Dr Berthet had interviews with the Minister of Health and with various other persons conversant with tuberculosis-control activities throughout Turkey. He gives some examples of results achieved:

Improvement of health facilities

As a result of the Turkish Government's efforts the number of beds reserved for tuberculosis patients has considerably increased during the past few years:

Year	Number of beds
1939	400
1943	600
1949	1 100
1950	2 000
1951	4 100
1952	5 300
1953	6 300

At the same time the number of tuberculosis-control clinics rose from 40 in 1951 to 61 in 1952. Of the latter number 24 are State clinics and 37 belong to private organizations.

BCG vaccination

A campaign organized with the collaboration of WHO and UNICEF began in January 1953. Twenty teams of which one is international are

at work. The following figures give an idea of the extent to which BCG vaccination has been carried out in Turkey since 1949

Year	Total	Vaccinated
1949	59 430	11 528
1950	158 104	57 570
1951	427 836	165 102
1952	496 362	194 833

First Turkish Tuberculosis Congress

A concrete result of the activities undertaken by the Turkish Government for the control of tuberculosis was the organization in Istanbul of the first Turkish tuberculosis congress which was held at the University from 25 to 27 February 1953. More than two hundred physicians attended the various meetings. 66 papers were presented—dealing in particular with the medico social prophylactic and therapeutic aspects of tuberculosis. Dr Berthet, who represented WHO, gave a report entitled "Present trends in tuberculosis control in the countries of the Middle East."

Future Plans

The Istanbul Tuberculosis Control Demonstration and Training Centre is to extend its medico social activities in the fields of rehabilitation, protection of children against tuberculosis and health education of the public. Its premises are to be enlarged—it will in future occupy six floors.

It is the Government's intention to continue the untiring efforts which have given such satisfactory initial results. In addition it wishes to strengthen its relations with neighbouring countries, Greece and Yugoslavia particularly. The Istanbul Centre is ready to welcome Fellows from these countries for training courses and an exchange of professors among the different universities is envisaged.

Disease Classification Centre Transferred

The WHO Centre for Classification of Diseases has been transferred from Southport to London, England. This move however does not change the address which remains: WHO Centre for Classification of Diseases, General Register Office, Somerset House, London, W.C.2, England.

This centre was established in accordance with a decision of the Third World Health Assembly to carry out practical studies in the application of the International Statistical Classification of Diseases, Injuries and Causes of Death. Since 1 January 1953 it has been headed by Dr W. P. D. Logan, Chief Statistician (Medical) of the General Register Office, England.

Reports of Expert Groups

PLAGUE

Recent scientific advances have greatly increased the available means of plague control. The sulfonamides and antibiotics, new rodenticides, and more effective pulicides have led to rapid progress in the treatment and the prevention of this disease in the protection of contacts in the extermination of rats, and in flea control.

The second report of the Expert Committee on Plague¹ summarizes in concise form the results of plague control experience in recent years. In certain regions these results have been most impressive. The report also gives an account of surveys on the role of wild rodents in the transmission of plague, enumerates the procedures for distinguishing the plague bacillus from the pseudotuberculosis bacillus, and describes the basic methods for the laboratory diagnosis of the disease.

¹ *Wld Hlth Org techn Rep Ser* 1953 74 13 pages Price 9d \$0.10 or Sw fr 0.40 Published in English and in French

UNDERNUTRITION AND MALNUTRITION IN MOTHERS, INFANTS, AND CHILDREN

The joint FAO/WHO Expert Committee on Nutrition held its third session in Fajara, the Gambia, from 28 November to 3 December 1952, immediately following a nutrition conference organized by the Commission for Technical Co-operation in Africa South of the Sahara¹. Both sessions were concerned with malnutrition in mothers, infants, and children, the latter in Africa, and the former in the world in general.

In its report, which has recently been published in the Technical Report Series,² the committee differentiates between undernutrition, in which a calorie deficiency leads to a state of inanition and protein malnutrition which is described as a state of ill health occurring where diets are habitually poor in protein while they are more nearly adequate in calories. The committee is particularly concerned with the latter. The report points out that while undernutrition or hunger becomes clamorous and is easily recognized there are varieties of malnutrition which are not necessarily associated with hunger and are not easily recognized as evidence of dietary

¹ See *Chron Wld Hlth Org* 1953 7 69

² *Wld Hlth Org techn R p Ser* 1953 72 30 pages Price 1/6 \$0.20 or Sw fr 0.80 Published in English and in French

deficiency and that so long as general hunger is prevalent in an area, the more insidious malnutrition may escape recognition and treatment

After reviewing various states of undernutrition and malnutrition including kwashiorkor the committee draws attention to the paucity of information available on these subjects and stresses the need for more knowledge concerning the clinical biochemical and pathological changes found in infants and children suffering from these states. Turning to the causes of under and malnutrition the report remarks on the inadequacy or fluctuation of food supplies in many underdeveloped countries and indicates that in certain regions of the world the rapid increase in population has created the problem of producing enough food to meet the growing demands, to which a solution has been sought by increasing the production of foods which give a high caloric yield per hectare. Once introduced these crops because of the ease of their cultivation tend to encroach on areas previously producing foods which are richer in protein. The high-calorie foods may satisfy hunger but may also lead to malnutrition.

There is no information on the extent of protein malnutrition but there are reasonable indications that it is widespread among the general population of the tropics. Its treatment calls for the administration of a diet rich in protein usually with a basis of powdered skim milk.

There is evidence that milk meat eggs fish and pulses all have a preventive effect on protein malnutrition. The consumption of such foods by pregnant and lactating women would contribute to its prevention in infants and children, whose diet may also be supplemented by special food products such as milk substitutes which may or may not look like milk but which resemble it in nutritive value. These special foods the report points out should be based on products locally available which can be processed in the village.

The practical application of programmes to improve nutrition is also considered in the report. It is pointed out that in many underdeveloped regions the main problem is to bridge the gap between the knowledge of the administrative authorities and technical services on the one hand and the contribution in wisdom experience and effort which can be made by the people themselves on the other. Various lines on which field research clinical and laboratory research and investigations of the nutritive value of food could be conducted are suggested in a section of the report in which it is stated that the outstanding need is for scientific knowledge of protein requirements at various ages.

There are three annexes to the report the first is a description of severe kwashiorkor the second is a list of 39 different names that have been applied to protein malnutrition in various parts of the world and the third is a note on food production and extension methods.

Review of WHO Publications

SEPTIC TANKS

The treatment and disposal of domestic sewage from small groups of houses or from isolated dwellings is a problem of wide interest and great concern in many countries. This problem was a subject of discussion at the Third European Seminar for Sanitary Engineers held in London from 27 October to 1 November 1952¹. A collection of some of the papers on this subject which were presented at the seminar and a summary of the discussions have recently been published in the WHO Monograph Series.

Among the topics dealt with in this monograph are the factors governing sewage treatment in small sewage plants, principles of design for small sewage works, effect of treatment of domestic sewage in small plants on the counts of faecal bacteria and comparison with the results of treatment in large scale sewage works, and a comparative study of septic tanks. The monograph is illustrated by sketches of plans and sections of various tanks and by photographs of plants in Great Britain. It contains in addition to the articles and the discussion summary, a select bibliography on septic tanks and similar small sewage treatment units.

The basic data and principles for the design and operation of the type of sewage installation described and the observations on maintenance given in the monograph could serve as a useful guide to local health departments, sanitary engineers and others actively engaged in rural and urban sanitation in designing such units and to national and provincial authorities who are considering revision of their regulations on sewage disposal.

¹ See *Ch on Wld Hlth Org* 1953 7 18

World Health Organization (1953) *Design and operation of septic tanks*. Geneva (World Health Organization Monograph Series No 18). 14 pages. Price 7/6 \$1.50 or Sw fr 6.— French edition in preparation.

The Second International Standard for Penicillin

In 1950 the Department of Biological Standards National Institute for Medical Research London was authorized by the WHO Expert Committee on Biological Standardization to prepare the Second International Standard for Penicillin. A report on this work by J. H. Humphrey, M. V. Mussett & W. L. M. Perry has now been published¹.

A single batch of specially recrystallized sodium penicillin G was obtained and 11 laboratories in seven different countries

were requested to take part in its collaborative assay. 112 assays were carried out of which 101 were done by cup-plate methods using either *Staphylococcus aureus* or *Bacillus subtilis*. The results were subjected to standard methods of analysis on the basis of which the authors define the Second International Standard for Penicillin as containing 1 670 International Units (IU) per mg with limits of error ($P=0.05$) of 1 666–1 674 IU/mg. The International Unit is therefore redefined as the activity contained in 0.0005988 mg of the Second International Standard for Penicillin.

¹ *Bull Wld Hlth Org* 1953 9 15

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Public Health Personnel in Great Britain, the Scandinavian Countries, and the USA

Dr G. Graham Cumming, Senior Health Officer at Hong Kong, was granted a WHO fellowship to make a six month tour of Denmark, Finland, Great Britain, Norway, Sweden and the USA to study public health administration and training. Part of his final report on his study tour is summarized below.

Public health officers

Dr Graham Cumming was surprised to find that except in the United Kingdom public health posts are not generally filled by specialists and that there is comparatively little public health training offered in most of the countries which he visited. Scandinavia lacks not only health officers but even physicians. In the USA there are many physicians but they are badly distributed and there is an acute shortage of qualified health officers. Special efforts are being made to interest young doctors in public health and to provide comprehensive training in this particular branch of medicine.

Public health nurses

The situation with regard to public health nurses seems to be better. Dr Graham Cumming noted in all the countries visited a very high standard of training and selection on aptitude and character. The training everywhere consists of one year of special postgraduate instruction plus field experience with emphasis on group dynamics and the development of personality with a view to leadership and education of the public.

Particularly noteworthy is the Finnish school of nursing at Helsinki and the Finnish public health nursing system. To quote Dr Graham Cumming: "There they demand and turn out an exceptionally high calibre of nurse in large numbers. The Finnish public health programme hinges very largely on the public health nurse. She often is the leading personality in a community and a most responsible person who must be capable of turning her hand to almost any kind of job. The Finnish public health nurse is thus very thoroughly trained in all aspects of public health: social affairs, psychology and even laboratory techniques and is a most competent generalist. The Finns too have the most thoroughly organized system of in-service conferences and systematic refresher training found anywhere. Of all the countries visited, Finland makes most use (and a quite exceptionally extensive and varied use too) of this invaluable body of public health personnel, provides the best facilities for them and most systematically ensures that they are kept up to date and adequately supported. The Finnish law requires each local community to provide one public health nurse per four thousand of population."

Nowhere else have I found anything like this provision yet in Finland they aim at one nurse per two thousand of population and it is very probable that they will achieve this ideal state of affairs in the not too distant future

The ratio of public health nurses to population in other countries varies considerably in Hawaii for example it is about one to five thousand in the rural areas and about one per seven thousand in Honolulu in England, the ratio is expressed in terms of births with one nurse per seventy births per year being considered fairly satisfactory

Concerning Denmark Dr Graham Cumming wrote " the public-health nurse has not come into her place in society There are scarcely two hundred in the whole country and even those are very imperfectly used. Considerable difficulty is being experienced in training them because of lack of opportunity for supervised field experience. This is one rather serious weakness in an otherwise very efficient and rather interesting health service "

At the University of California, in Los Angeles USA an experiment in nurses training is being conducted The students take a regular four year academic course and do not " work their way through a hospital " Instruction is given in the form of task projects group discussions and guided study rather than by formal lectures and other conventional means of teaching The course covers every aspect of nursing including public health and the graduate is considered qualified for any nursing post anywhere

Dr Graham Cumming observed considerable variation in the use made of the public health nurse in the various countries which he visited " In Finland, she does everything including bedside care and social advising blood examinations and X raying. In Denmark she is confined to advising mothers of infants and to a little school nursing In Norway and Sweden she performs much the same function as in Finland but usually one individual is not required to perform all functions In England there is wide variety in duties according to local needs She is regarded as a family nurse but rarely gives actual bedside care In some places she is the local midwife The Danes incidentally have an excellent and highly trained midwifery service which somewhat offsets the deficiencies in public health nursing services In America, practice again varies enormously In some States the public health nurse is hardly used at all in others she is confined fairly strictly to child care Elsewhere she may be used mainly as a tuberculosis nurse Many serve as specialist school nurses only California and Hawaii appear to make the greatest use of her as a generalist "

In concluding his observations on public health nurses Dr Graham Cumming expressed the view that " the public health nurse is an indispensable unit in any really comprehensive health programme and she should be a true generalist Her main function however is health education "

Other public-health personnel

Other personnel invaluable to public health services whose role and training Dr Graham Cumming described in his report are the health educator the social worker the nutritionist the dental hygienist and the sanitarian sanitary engineer and sanitary inspector He also noted with interest the use particularly in the USA of the lay specially trained administrator in hospitals and clinics. Special praise was accorded to the health educator and to his role in public health in the USA " One extremely interesting unit in the American health team is the health educator These are personnel specially trained in the art of influencing people and getting results Special courses are arranged for them at various schools of public health and they do invaluable work They relieve the health officer of a great deal of publicity work and develop wide and close contact with all and every kind of social group activity Whereas the public health nurse can do her best educational work in the home with families, and the medical officer can work through mass media such as the press radio and television, the health educator can reach and influence in addition small active groups of civic minded people and get

support and action otherwise lacking. No health team can really be complete without this type of personal relations publicity manager. He interprets the health department to the people and the people to the health department and such work calls for very full time work and special training."

* *

In evaluating his study tour and expressing his appreciation to WHO for having awarded him the fellowship which made it possible Dr Graham Cumming wrote "This tour has been most valuable from the point of view of expanding my general knowledge making contacts clearing up misconceptions and gaining a clearer insight into other people's thinking and difficulties. I have picked up many useful hints and ideas."

"From the Danes I think I learnt a possible technique for introducing health insurance into Hong Kong gradually from the Norwegians an idea on how to solve some of our staffing problems from Finland some conception of how to organize and operate a public health nursing service suitable for Hong Kong from England I got important material on training health personnel and from America I got valuable ideas on mental hygiene and health education many technical ideas and a good deal of stimulation in Sweden I picked up some valuable information on the research being done in epidemiology particularly on virus infections in pregnancy and some very interesting views on sociology."

"It was a great privilege to have been given this opportunity and if I have failed to take proper advantage of it the fault must be with me."

Notes and News

Regional Committee for Europe Meets in Copenhagen

Denmark was host to delegates from 22 countries at the third session of the WHO Regional Committee for Europe held in Copenhagen from 7 to 10 September 1953. The Chairman of the committee was Dr J Frandsen Director General of the Danish National Health Service.

Among the major recommendations of the committee was that Geneva should become the permanent site of the Regional Office for Europe. This selection was made by secret ballot from a choice of five proposed sites: Copenhagen Nice Frankfurt on Main the Hague and Geneva.

A budget of approximately \$1 600 000 was recommended by the committee for 1955 aid to health projects training courses and other activities in European countries. Part of this sum will come from the regular budget of the Organization and the rest from United Nations Technical Assistance funds UNICEF and other agencies having joint programme arrangements with WHO.

General approval was given to the work already carried out through the Regional Office for Europe minor adjustments in the plans for 1954 were made and a programme for 1955 was discussed and approved. Particular attention in the plans for Europe was accorded to educational and training activities such as conferences on various subjects (e.g. modern trends in tuberculosis control) and special studies of interest to many countries (e.g. on water standards on teaching methods for nurses and on sanitary engineering terminology in English and in French). An extensive fellowship programme was approved.

Despite the emphasis on education and training however almost a fifth of the total budget for 1955 will be devoted to the control of certain communicable diseases such as tuberculosis (in Austria Finland and Turkey) diphtheria and whooping cough (in Yugoslavia) and trachoma (in Tunisia and Morocco)

The committee recommended that its two Associate Members Tunisia and Morocco (French Protectorate) should be given full voting rights in its meetings

An invitation to hold the 1955 session in Vienna was accepted and a previous decision to meet in Yugoslavia in 1954 was confirmed

Present at this session were delegates from Austria Belgium Denmark Finland France Germany (Federal Republic) Iceland Ireland Italy Luxembourg Monaco Morocco (French Protectorate) Netherlands Norway Portugal Spain Sweden Switzerland Tunisia Turkey United Kingdom and Yugoslavia

Regional Committee for the Western Pacific Holds Fourth Session

The WHO Regional Committee for the Western Pacific met for its fourth session in Tokyo from 3 to 8 September 1953 Dr Takemune Soda of Japan was elected Chairman of the meeting

During a detailed review of the accomplishments of the past year with statements by representatives of the various countries concerning their health activities attention was called to the lack of trained health personnel one of the principal problems of the Region The committee suggested that in the coming year encouragement be given to fellowships for study within the Western Pacific Region wherever possible at institutions which have been given WHO assistance

In considering the proposed programme and budget for 1955 the committee had to take into account a serious cut in Technical Assistance funds which also necessitated a revision of the programme previously approved for 1954 Dr I C Fang Regional Director urged Governments to try to increase their contributions to the Organization stating that WHO can have exactly the kind of programme for which its Member States are prepared to pay In view of the financial situation likely to be faced the committee authorized the Regional Director to establish priorities in 1955 for projects of regional significance for which commitments have already been made subject to the availability of funds and to continue assistance in strengthening national health administrations and education and training programmes relating both forms of assistance in so far as possible to regionwide disease-control activities Other decisions relative to the programme made provision for technical advice and assistance in international aid to governments concerning the health problems of refugees and for carrying out a regional survey of the extent of smallpox in view of the Organization's proposed worldwide campaign against this disease

The committee agreed that Associate Members (of which there are as yet none in the Western Pacific Region) should have full voting rights at Regional Committee meetings but that such rights should be accompanied by an increased assessment of contribution to the WHO regular budget It was further agreed that in order to conserve funds for programme purposes the travelling expenses of representatives of Member States to the committee meetings should be borne by the Member States rather than by WHO

The next meeting will be held in Manila unless an invitation is received to hold the meeting elsewhere In 1955 the committee will meet in Singapore

The following countries were represented at this session of the Regional Committee for the Western Pacific Australia Cambodia China (Taiwan) France Japan Netherlands New Zealand Philippines Portugal United Kingdom of Great Britain and Northern Ireland USA and Viet Nam



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

- 30 November **Expert Committee on Tuberculosis** sixth session Copenhagen
4 December
- 30 November **Seminar on Reporting of Communicable Diseases in the Americas,**
11 December Santiago, Chile
- 7 11 December **Expert Committee on Health Education of the Public** first session Paris
- 10 11 December **International Antivenereal Diseases Commission of the Rhine** Antwerp
- 14-15 December **Technical Advisory Committee** Family Worker Study, London

1954

- 12 January **Executive Board, thirteenth session** Geneva

ETHNOLOGY AND HEALTH PROBLEMS *

Dr Pierre DOROLLE

Deputy Director General of the World Health Organization

Until a few years ago ethnology and cultural anthropology were confined to the analytical and descriptive study of the traditional aspects of "non mechanized" societies. Recently many ethnologists have realized that without abandoning this purely scientific attitude they must also begin to bring their knowledge ethnological techniques and special view point to bear on practical activities of a social order. It is to a whole younger school of ethnologists that the credit must go for having grasped the importance and human significance of applying this science. This attitude has not failed of course to provoke criticism on the part of ethnologists who have remained faithful to the purely scientific conception of their role.

The non specialized observer notices differences [among peoples] without understanding them or being able to interpret them. When a population group is being studied as a preliminary to some practical social activity such as health work only a professional ethnologist is capable of orientating and organizing the impressions gained of the conditions and environment so that the significance of such conditions and environment from the point of view of those who live in harmony with them may be understood and of describing their functions and values for purposes of comparison and prevision. The collaboration of the ethnologist is essential in order that the culture of the people may be known understood and not scorned. When we set about improving a people's health we must put aside our own concepts of good and evil better and worse and not encroach upon the people's beliefs and cultural concepts. Everyone has the right to develop his own philosophy and to refuse any change in it which does not come from within himself. Furthermore it is useless to attempt to impose changes in cultural concepts from the outside. If such changes are imposed they cause disequilibrium and misunderstanding which seriously compromise the work which is being attempted.

It is only too well known unfortunately how much harm has been done by well meaning but mistaken approaches to certain non mechanized populations and by maladroit philanthropy on the part of persons inspired by the best intentions. Too often physicians have attempted to root out what they considered to be primitive practices and superstitions. Fortunately it is becoming increasingly understood that health work can no longer be the monopoly of physicians hygienists and their technical

collaborators In the complex field of myths ritual, taboos, witchcraft and sorcery, in the realm of the fears and anxieties inspired by certain concepts of the world around us, only the ethnologist can move with confidence and interpret the ideas and practices of a population, its beliefs and customs with regard to disease, accident, birth, death, burial, the future life, and everything connected with the fundamental religious bases of its culture

How are we to understand, in practice, the contribution of the ethnologist to health work? Here, very briefly, is an outline of a programme as conceived by an ethnologist attached to the WHO Regional Office for Africa Mr Jean Paul Lebeuf

A Collect in an analytical and critical report all the works already devoted to the population in question

B Complete on the spot the bibliographical data in order to have available a complete study of the culture in question including those elements which may be the most difficult to understand in the first instance

In carrying out this research the ethnologist should in particular

- evaluate the material possibilities of the people in question so that the health measures contemplated shall not lay a greater burden on the people than they are able to bear
- study all the beliefs attitudes and practices having any relation to health preventive medicine and diseases
- make a list of the traditional remedies employed and determine what particular relation may exist between these remedies and the people's religion
- study the taboos which are binding upon a whole people or a tribe or family or one individual only with regard to plants animals or objects even attitudes
- determine the attitude of the population to disease and medical care the nature of the traditional social relations between sick persons and medical personnel and between the latter and the various groups and subgroups

It is also desirable to get to know the members of the population group who act as medicine men or healers and the methods they use to combat epidemics or to prevent them

C Establish the method of carrying out the programme on the basis of data collected in the above manner and in close liaison with health workers from whom the ethnologist will obtain the necessary information concerning the requirements and details of the practical measures envisaged

This plan for carrying out the programme will be accompanied by detailed explanations given to all members of the health team so that they may be instructed in the new problems with which they will be confronted

D During the carrying out of the programme the ethnologist will intervene to study the reactions of the population If the cultural factors likely to arise while the programme is in progress have been properly studied the manner in which these cultural factors develop will then provide the ethnologist with indications which will enable him to make recommendations to the health technicians and thus to facilitate the approach to groups and individuals

Any difficulties arising during the application of the programme will be analysed jointly in order to find a solution

In illustration of this outline of a programme of ethnology as applied to health I should like to give some specific practical examples of cultural

factors which have been encountered during the development of health activities drawing attention to their interaction with these activities or, more precisely with the introduction of public health methods which originated and were developed in entirely different societies

There is no pretension here to systematic presentation of these examples which I mention as they occur to me for the most part they are drawn from my personal experience or from experience gained in the practical activities of our Organization

What for the Western mind is more simple than the taking of a blood sample whether it be a drop taken from the tip of a finger or a few cubic centimetres from a vein ? And yet not more than 25 years ago in Asia in Viet Nam we met opposition to this simple technique in many rural areas and the villagers fled Was it fear of the pain ? Fear of the sight of blood ? These to our minds would have been reasonable explanations In fact it went very much deeper Any part of the human body if delivered to another person—whether it be hair nails or blood—would place a part of the personality of the owner into the hands of that person and enable the latter to prepare philtres or other thaumaturgical charms by means of which the owner's will health or future might be affected Many years were needed to dispel this fear Quite recently still in Afghanistan a campaign for the mass treatment of syphilis which is endemic in certain valleys at high altitudes came up against the same difficulty and although its importance was at first underestimated by our venereal disease control team it very nearly brought about the failure of the whole campaign It was necessary to take the laboratory to the people on the back of a mule in order to convince these mountain dwellers that their blood was not used for any mysterious or magical purpose but simply to discover whether or not they were suffering from the disease or whether they had been really cured after treatment

How many times have wells bored in Viet Nam villages with the best intentions in the world by administrators anxious to procure potable water for the populations remained unused ! The reason given was that the water was not good for tea making or for cooking rice but the truth was that the wells had been bored without consulting the village geomancer and only he could tell whether or not the well had been bored into a vein of the dragon which sleeps under the soil of each Viet Nam village

In the same country how often has a rural infirmary or dispensary been built and equipped and then remained unfrequented by the population ! It is assumed that the people do not come out of ignorance or from fear of modern treatment or on account of some shortcoming on the part of the nurse The truth is simply that the building has been orientated wrongly—again without consulting the geomancer that its doors open in the direction from which the malevolent spirits come and often that the protective screen which keeps out evil spirits has not been installed

Or it may be that the building has been erected where there was once a tomb, and no one would risk attracting the fury of the 'wandering souls' by profaning a burial place.

Another great difficulty encountered in health activities among non-mechanized peoples is the opposition of pregnant women to maternity centres or maternity hospitals. At Quito (Ecuador) no one could understand the reason for this, and an ethnological study was necessary in order to clarify the situation. It transpired that the hospital was too well aired whereas fresh air was considered bad for women in child birth that the parturients were required to take a bath on arrival whereas this was believed to be extremely unhealthy for pregnant women, and that the mothers had to leave the hospital too soon whereas, traditionally the young mothers should be kept inside for two weeks.

In Viet Nam and, perhaps, in China on the contrary, the obstacle was that the ritual ceremonies take place on the third day after the birth of the child and the young mother must rise to participate in them whereas the hospital obliges her to remain in bed for longer than that period and she is thus prevented from paying homage to her ancestors and from purifying herself within the customary time limit. Moreover—again in Viet Nam, and similar facts are related from India—certain hospitals do not allow the new born infant to be provided with amulets and other exorcizing objects without which the child is not protected against maleficent spirits.

Among certain African peoples it is the custom for new born infants to be placed as soon as they are born directly on the naked earth, and this makes it impossible for future mothers to go to maternity centres which refuse to allow this practice. An ethnologist having studied the problem suggests a solution: the main thing for the African is to make contact with the forces in the soil of his ancestors. It is for this reason that when a family moves away it takes with it some of the soil of its place of origin. It would probably be sufficient to touch the new born infant with a little of the soil from its village for the prejudice against the hospital to be removed.

It often happens also that in the maternity centres a diet is imposed on pregnant women and those in confinement which may seem rational to us but which offends the ancestral traditions which impose a very limited and sometimes extremely strict diet on parturients. In Viet Nam, for example the diet is dry rice salt and water.

The extent of interdictions or "taboos" in regard to food is by no means limited to those which affect obstetrical assistance. These interdictions and taboos are at the root of the extremely hostile reactions to attempts to improve the nutrition of populations if instead of endeavouring to understand the reasons for traditional habits and attempting to correct them gradually a frontal attack is made on those traditional customs in

complete ignorance of the background to them. Everyone knows for example that there are very many African populations which absolutely refuse to eat milk or eggs. In South Africa there are tribes which live on the banks of rivers but which never eat fish. I cannot here dwell at length on the question of alimentary interdictions with which moreover most people are familiar. I will only add a word on the problem of milk which of itself is extremely important. In Viet Nam for example where the population has never regarded cow's milk as a food for man or children and where it is considered a repugnant substance the habit of consuming milk was introduced with the aid of sweetened condensed milk which patients ate like jam. To salve their consciences and maintain their opposition to cow's milk they called the tinned milk bird's milk since on the tin of the first brand known to them there was a picture of a nest full of little birds.

Speaking more generally all health activities are conditioned by the attitude of the population to disease by its beliefs and customs in this respect. Examples could be cited ad infinitum. With regard to smallpox for instance in the Ica valley of Peru ethnological study has revealed that smallpox is considered a disease which attacks only organisms which have not reached maturity—organisms still in the process of formation—that is to say women and children. The real male cannot contract smallpox which attacks only men who are not truly male. In other countries Viet Nam and China for example smallpox is considered as a cruel necessity which must inevitably overtake people during childhood or adolescence. In the past no name was given to a child until he had had and survived smallpox for he was not considered as really living until he had been struck by the disease.

The essential fact in this connexion is that diseases are usually attributed to supernatural causes. To attempt to treat a disease or to prevent it is an offence against God or the Spirit which caused the disease. In India for instance smallpox and eruptive fevers in general are attributed to a supernatural being held in great awe—the Goddess Mata.

Obviously it is in the field of mental and nervous disorders that the idea of a supernatural influence is most prevalent. It may be said that at some time or other in all civilizations mental derangement and serious nervous disorders have been attributed to possession of the individual by a spirit. This belief still persists in the whole of Africa in the Arab countries and among most of the populations of Asia. This magical or mystical conception of madness entails treatment of a religious or thaumaturgical character which consists of incantations and exorcisms practised generally by specialists and often accompanied by violence—beatings icy baths compulsory fasting—intended to expel the evil spirit. In countries of Chinese civilization there are temples which are in fact treatment centres for persons suffering from mental disorders. In some Moslem

countries—the Sudan, for example—it is generally a Holy Man whose father and grandfather before him were famous exorcists, who gathers together the mentally ill of a whole region around some venerated tomb and treats them by the application of appropriate verses from the Koran. It is evident that any attempt at modern treatment of mental disorders if it is to avoid deeply offending such populations must take these religious or thaumaturgical concepts into account.

There are many other obstacles to medical activities among non-mechanized peoples. For example, in many population groups the women are very reluctant, or absolutely refuse to allow themselves to be examined by a man even in the presence of another woman. On the other hand cases have been noted—on the island of Yap in the Pacific for example—where women refused to allow themselves to be examined by a woman or in the presence of another woman. Reactions of this kind are unforeseeable unless there is a preliminary ethnological study.

The same applies to the general objections to being hospitalized. We are naturally tempted to find explanations which satisfy our own sense of logic such as the dislocation of the family group, the diet which is different from the traditional regime and also the fear of being less well cared for by nurses than by relatives. All this is true, but there are often much deeper reasons which are never spontaneously mentioned and which can only be brought to light by thorough investigation. In many countries the hospital is held to be the place where a number of patients have died and for whom the traditional funeral rites were not performed. Their souls cannot rest, and they return in the form of malevolent spirits or "lost souls" to take vengeance on the occupants of the hospital. On this same theme the patient and his or her family fear that death may occur in the absence of relatives and that the last rites will not be performed. In countries of Chinese civilization for example they fear that the soul of the dying person will not be received in the proper manner. It is feared also that funerals may not be carried out according to the ritual. Such lack of observance brings untold misfortune upon the family and costly expiatory ceremonies often have to be performed, the result of which is not always certain.

On another level medical action meets with misunderstanding not only in regard to the reasons for treatment—seeing that disease is considered as being due to supernatural causes—but also with respect to treatment technique. For example in some civilizations the idea of time as we know it does not exist. A prescription for the application of treatment at fixed hours has little chance of being followed unless the hours for taking the medicine are fixed on the basis of familiar phenomena such as the rising or setting of the sun, or the moment when the sun is at its zenith. Among other peoples on the other hand the day is divided into clearly defined periods for which the local name must be known. It is also to be expected

that among undernourished people everyone will consume as much food as possible when it is available. The same tendency induces patients to take all the drugs given to them in one dose. It must be remembered that the idea of prolonged and repeated treatment is foreign to most archaic peoples. For them the action of the drug is always more or less in the nature of magic so that as soon as the first result is noticed it is assumed that the drug has worked and that there is therefore no necessity to continue or to consolidate treatment.

All these difficulties apply to curative medicine but even more so to preventive medicine. The action of preventive medicine is negative and there are no tangible results. Moreover the notion that diseases are due to supernatural causes is incompatible with the idea of prevention be it by vaccination by periodic examination or by early treatment. It is true that among some peoples such as those of the former Chinese civilization some practices—the inducement of smallpox for instance—have prepared the minds of the people to accept the idea of certain vaccinations such as that against smallpox since it produces a reaction which resembles the disease against which protection is sought. This is however an exception. The word vaccination does not of course exist in primitive languages and the concept itself is entirely unknown. To a still greater degree the idea that certain diseases can be avoided by preventing contamination of water and food by constructing proper latrines by digging a well properly or by avoiding contact with flies is completely foreign to most archaic peoples.

The basis of all health activities—and this is true in all civilizations even the most highly developed—must be health education of the public. Its aim is to make understood the reasons for the health activities and the methods used and to make people want to improve their standard of health. Here we come up against the fundamental obstacle of the difficulty of finding a medium for the communication of thoughts and ideas. All methods of communicating ideas have a double aspect: the one is physical and material and therefore tangible; the other is psychological and social and therefore less tangible. It is on account of the psychological and social factors that a method of health education based on a particular communication medium which has given good results in one society may fail completely among a different and unprepared people. Thus in Java in what is today Indonesia the health service had undertaken a campaign for the health education of the public by means of films. It is known that *this method gives excellent results among civilizations on the Western pattern*. A very careful analytical study of the results obtained in certain groups of the Javanese population revealed that the educative significance of the very simple films which had been presented had completely escaped the great majority of the spectators. The only things they remembered were the superimposed picturesque and comic elements and they failed completely to perceive the real significance of the lesson which the film

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The same problem arises when the approach is made in the families themselves. For example in some communities in which to the superficial observer the woman appears to play a very unimportant role she is on the contrary the key element in the family and it is through her that educative action can be most effective. This is in fact often one of the fundamental difficulties since the women and particularly the grand mothers represent a conservative element which is particularly hostile to innovations. In other populations on the contrary it is the men who must be approached. In this connexion also it is desirable to avoid the difficulties which may be created by employing a male health educator where a woman would be preferable and vice versa.

Endless examples could of course be given. These will suffice however to demonstrate the absolute necessity of including ethnological studies in all health programmes and will serve to emphasize the fact that failure to recognize this necessity causes extremely serious setbacks since every unsuccessful attempt creates hostile reactions, mistrust and prejudice which for a long time make any new effort impossible.

Fortunately the collaboration of the ethnologist in health activities is today not only recognized as necessary but is now already becoming effective in many programmes. To mention only the World Health Organization in the Region of the Americas a cultural anthropologist has been attached by the Organization to an important health programme which is being implemented by the Government of Peru the "Servicio sanitario departamental" of Ica which is a demonstration and pilot area for health techniques applicable to a mixed civilization in a very characteristic valley. Likewise the Pan American Sanitary Bureau the World Health Organization's Regional Office for the Americas recently appointed an ethnologist to study the health programmes to be carried out in collaboration with the governments of Central America. Finally when the World Health Organization's Regional Office for Africa was set up a professional ethnologist was made a permanent staff member of the Office even before the technical medical and health personnel was complete as a first step in the study of programmes and to ensure that this study would continue to include the cultural point of view.

endeavoured to impart This technique, which had been very expensive, had to be abandoned Even simpler methods which seemed at first sight bound to succeed also failed completely

Among the same population of Java an attempt was made to instruct the villagers by collecting them in small groups and showing and commenting upon pictures of simple scenes illustrating the danger of flies the way in which intestinal worms enter the human body, etc It was some time before it was realized that most of the villagers were incapable of grasping the sense of the pictures because, in that Moslem society where the representation of living creatures was not known, the people failed to identify the images with what they were supposed to represent—to us, a perfectly natural process

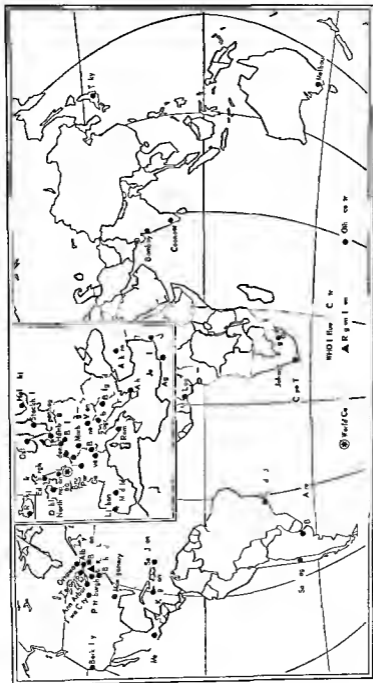
Again, the use in a health education campaign of images which have not been carefully studied from the point of view of cultural anthropology may profoundly shock the people This would be the case if, in order to illustrate the necessity for improved feeding pictures prepared for another country and representing the pig were shown among Moslem people The same would be true if meat from the cow were shown in a Hindu village

There are other more subtle difficulties which well meaning workers have often failed to appreciate, such as, for instance, the inability of an archaic population to grasp the idea of something infinitely small—the microbe, for example— not visible to the naked eye but discerned with the aid of instruments This idea, so easily grasped even by children among people accustomed to enlargers, even if only a simple magnifying glass, was completely foreign to the Asiatic villager who had never seen used anything which could augment the visual power of the human eye

Another much more general and more important problem in health education is that of determining to which group the health education should be directed In some countries good results have been obtained by addressing all the men from a village gathered together in a temple or in some other building In other countries this same method has failed completely Only careful analysis of the cultural concepts and of the roles of the various groups made it clear that among certain populations the educative action must be brought to bear on the family group in the domestic surroundings themselves But the difficulties go much further

In the case of a large scale collective approach—to the whole village for example—it is impossible to know a priori towards which element the maximum effort should be directed A human group of this type always includes certain dominating elements Very often they are old men with a reputation for wisdom but with whom superficial contact is difficult The person chosen by the village to deal with strangers is often a person of no responsibility and without any influence and it is necessary by ethnological study to discover who are the key people it would be desirable to approach

FIG. 1. WHO INFLUENZA CENTRES



THE INFLUENZA PROGRAMME OF WHO *

Influenza recognizes no man made boundaries an epidemic which breaks out in one country is a danger not only to that country but also to neighbouring nations and, indeed, to the whole world It is thus logical that WHO should play its co ordinating role in the struggle against this disease

The objectives of the WHO influenza programme are (1) to plan against the possible recurrence of a pandemic (2) to devise control methods to limit the spread and severity of the disease and (3) to limit the economic effects of an epidemic These various problems are closely related to technical questions regarding the different varieties of virus the variability of their antigenic characters of their infectiousness and their virulence

On the basis of what is known today, it is realized that a vaccine against virus A to be effective, must be prepared from a virus closely related to that which caused the epidemic and that continuous vigilance is necessary to detect potentially dangerous viruses at the earliest possible moment The essential knowledge required is early information concerning the nature of the virus causing an outbreak and a careful analysis of its characters especially its antigenic structure This was appreciated as long ago as 1941, when the United States Armed Forces Commission on Influenza set up a network of laboratories for the isolation of influenza virus with a central reference laboratory known as the Strain Study Center

In 1947 the WHO Interim Commission, in response to requests from various countries decided to create a World Influenza Centre (which was subsequently established at London) and to organize a worldwide network of laboratories The USA Strain Study Center accepted designation as the centre for the Americas acting in the same capacity for the whole continent as the World Influenza Centre in London acts for the rest of the world There are now 54 WHO designated influenza centres 27 in Europe 11 in North America 6 in Central and South America 2 in the Eastern Mediterranean Region, 3 in Africa, 2 in South East Asia, and 3 in the Western Pacific Region (see fig 1) Although there are other laboratories co operating informally in various regions the network is still not truly worldwide As a temporary solution a number of Influenza Observers have been designated which are unable to undertake laboratory studies but which furnish epidemiological reports

The functions of an Influenza Centre are twofold

1 To report with all possible speed, the occurrence of influenza within a country giving an estimate of its extent and severity This information

Résumé of an article by Dr A. M. M. Payne, of the WHO Division of Communicable Disease Services which appears in the monograph *Influenza: a review of current research* (see page 369 of this number of the *Ch. o. cl.*)

TWO CO-OPERATIVE PROJECTS OF WHO AND UNICEF *

In Asia the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) work hand in hand on 50 projects in 15 countries in which UNICEF has invested \$20 000 000 in supplies and WHO is supplying 100 professional personnel. These projects range from training projects in which the main investment is for personnel to mass campaigns where the foreign technical personnel may be only 5% of the project. Examples will illustrate the co-operation which exists between WHO and UNICEF.

A yaws project in Indonesia began about three years ago and has treated to date about 700 000 cases found among some 7 million people. The job is only 10% done for there are at least 7 million cases in the islands among the 75 million population.

UNICEF has made a first allocation of \$1 200 000 and has just voted an additional \$450 000 which will be enough to carry the project at least through 1955. The Government has paid all the local expenses and beginning in 1953 is paying for one third of the penicillin to be used for adults.

To start the project three years ago WHO sent a specialist to consult with the Government and to make preliminary recommendations. Dr Thomas Parran of the University of Pittsburgh Graduate School of Public Health confirmed this need in a general study of urgent needs in Asia. Several of us from UNICEF went in to work out the administrative details. From the beginning it was thus a co-operative job. A full time foreign clinical specialist and a serologist were maintained for two years. The rest of the work has been done by the Indonesians themselves and in the last year the only international WHO member has been the serologist. This does not mean however that the project does not have technical supervision. A statistician was necessary last year for some months to examine the records and to make suggestions for improving them.

The first two years work proved that even with the very few dollars it was possible to organize teams of male nurses who could do a thoroughly acceptable job cleaning out yaws village by village. The trouble was that there were not even enough nurses. It was therefore determined to bring into the plan eventually all the polyclinics of which there are some 1 200 scattered over Indonesia and to use the male attendant to give the injections under the supervision of the regency physician. Something more was

need not be a record of the actual number of cases but rather an index of the presence of influenza like disease, based, for example, on absenteeism among public transport workers, factory workers, or schoolchildren. Early news of an influenza epidemic is often transmitted to WHO by an Influenza Centre as well as in the usual way by national health administrations, the original announcement is followed by reports on laboratory results. This information is distributed in several epidemiological weeklies issued and airmailed from Geneva, Alexandria, Singapore, and Washington and—if sufficiently important—by cable and in daily epidemiological radio bulletins.

2 To identify the type of influenza by serological tests and preferably by virus isolation. The virus isolated is sent immediately to the appropriate reference laboratory for further study and comparison with strains isolated elsewhere and, in the case of an unusual strain, for use, if necessary, in the manufacture of vaccine in various countries.

The genesis of epidemics must also be studied since the future application of control measures will, to a large extent, depend on such study. The spread of an epidemic may be geographic which may allow time in more distant countries for vaccination of certain population groups before the epidemic arrives. The disease may, on the other hand, appear simultaneously all over a large area, which makes effective prophylaxis more difficult. Obviously epidemiological investigations such as those entailed in the study of the genesis of epidemics can be made only with international co-operation.

Another aspect of WHO's activity with regard to influenza has been the establishment of a group of experts who give technical advice concerning methods of studying strains, diagnosis by means of complement fixation and haemagglutination inhibition tests, therapy of influenzal pneumonia, and other relevant subjects.

Most of the Influenza Centres undertake work on virus diseases other than influenza as well. The network of laboratories is therefore potentially able to embark on a co-operative international study of other virus diseases should the need arise.

As a result of the work at the WHO Influenza Centres, knowledge of influenza virus variation and of the epidemiology of influenza has increased enormously and the day appears to be in sight when it will be possible to limit, to a significant degree, the effects of epidemic influenza.

every condition except that of civil war which occasionally holds up matters temporarily

Against these discouraging beginnings is the record of recent accomplishment. The goal was 700 000 children to be tested within a month. When the campaign was closed on March 21 1953 the goal had been passed and the number actually tested was 751 000. The percentage of return was 67 which is almost the average for a slower campaign.

The number of children expected to be tested under this programme in India in April 1953 was more than a million and in all the area rather more than one and a half million persons. Our goal for the year is 16 million and we think we will pass it. We are however desperately in need of a few more physicians for several wholly new programmes await only a team leader without whom the programme cannot start.

Three years ago we were about ready to say that mass programmes among the villages of Asia were not feasible. We know now that even with the tiny budgets available they are quite possible if we face the local conditions realistically. To do a successful job we must have a strong national leader in charge a few good international personnel specially trained and with rugged constitutions. Given this and enough transport and a steady supply of vaccine the job can be done. It is above all things however a team job. The government cannot do it without help from outside. WHO cannot do it without money for equipment and supplies from UNICEF. UNICEF certainly cannot do it without WHO trained personnel.

Review of WHO Publications

INFLUENZA A REVIEW OF CURRENT RESEARCH

The most lethal influenza pandemic that of 1918-19 which took a toll of 15-20 million victims caught the afflicted countries completely unprepared. The causal agent was then unknown. Vaccination was therefore impossible and treatment empirical. The sudden virulence of a disease which had hitherto been relatively benign and its rapid and unforeseeable spread took even the best organized health services by surprise. The fear of a new and similar catastrophe persisted once the pandemic had subsided and was enhanced by the erratic nature of the disease itself.

In 1933 the discovery of the virus responsible for influenza and its successful inoculation into an experimental animal opened an era of intense and fruitful research in the realm of pure science as well as in that of practical applications.

needed, however—someone to find the crises in the villages and bring them together for treatment. This person has only a high school education and perhaps only three months' training but he is carefully picked so that he is acceptable to the village, and he works through the village headman.

This plan was tested under the guidance of Dr. M. Soetopo, a member of the WHO Expert Committee and a leading venereologist in Surabaya. Careful preliminary tests were made to find out whether the system would work at all, how effective it would be, how fast the work could be done and what the cost would be. The tests were simple but carefully done, because on that the whole expansion depended.

Here again WHO came into the picture. These tests were carefully examined in the First International Symposium on Yaws Control held in Bangkok in March 1952, with 60 specialists in attendance from most countries that have yaws. There was much discussion of the conditions that must be put on work that has to be done with so little medical supervision.

The conference was not satisfied to discuss the papers brought from Indonesia. A special committee of three made a special study on the spot of the methods that were being used. They suggested a number of technical changes that ought to be made, but, in general, gave their hearty approval to the plan and urged that it be expanded to treat at least a million cases a year.

We are now in the midst of that expansion. The whole job is being done by the Indonesians themselves. There is on the spot, however, as country representative from WHO, the previous regional specialist on yaws who regularly consults with the national team leader. In fact, the team leader, the WHO representative, and the UNICEF mission chief work together to develop a sound and feasible administrative plan.

It is still too early to determine the results. The plan is beginning, however, on schedule: almost 100 local units have already been started and by the end of 1953 the goal is 300. The rate of treatments per month is expected to rise from about 25 000 to at least 50 000 by the end of this year, and to at least 75 000 a month next year. We are still far from the goal but we are on the way.

Largely because of the amount of transport needed, the UNICEF investment in this project is relatively high. The work of the professional staff, however, has been more important in BCG work than in yaws because the secret of success is even more than in yaws: that of rapid and effective organization—to assemble millions of children quickly and get the highest percentage of them back to have their tests read.

The beginnings of this work in India and in Asia in general were discouraging. There was considerable opposition and much educational work needed to be done. Greater obstacles were poverty, the lack of roads, the heat and the monsoon. It has been found, however, that careful preparatory work does make possible the organization of successful campaigns under

and other factors relevant to the available statistics partially explain this decline in the influenza death rate

Two articles are devoted to the subject of the influenza virus itself. In the first P. von Magnus (Denmark) summarizes knowledge concerning the morphology, immunology and kinetics of multiplication of the virus. The virus is composed of an elementary body about 80-120 m μ in size which is infective, causes haemagglutination and provokes the development of both inhibiting and complement fixing antibodies and of a soluble substance which is not infective but which also acts as an antigen in the complement fixation reaction. The virus when freshly isolated may appear in the form of filaments. The stages of multiplication have been followed in the endodermal cells of the fertile egg and the biochemistry of the interference between the virus and the host cell in tissue cultures.

The second article by Sir Macfarlane Burnet (Australia) deals with the question of the surface (somatic) and genetic qualities of the virus, the first including serological reactions, haemagglutination and the interaction of virus on the host cell while the second comprises the inheritable behaviour of the virus. The author considers the mode of action of the virus (which acts as an enzyme) on the host cell, its variability and the phenomenon of recombination which has been suggested as an explanation of the extraordinary virulence of the viruses which caused the pandemic of 1918-19.

Laboratory methods of studying the influenza virus intended for both the diagnosis of the disease and the classification of the viruses are described by P. Lepine (France). Isolation of the virus by inoculation into the ferret, mouse or hamster or in embryonated eggs, the complement fixation test, the haemagglutination-inhibition reaction, observation of cytologic changes caused by the virus in the tissues and electron microscopic examination—these are some of the procedures which aid in making a diagnosis of influenza from serum or from throat washings of the patient.

Anti-influenza vaccination of certain population groups and of men in the armed forces began to be practised in the USA twenty years ago. Thomas Francis Jr (USA) describes the steps which, after initial failures, led to the preparation of effective and properly composed vaccines. He indicates what direction research might usefully take and discusses the role of adjuvants which decrease the volume of vaccine necessary by increasing the formation of antibodies and the incorporation into the vaccine of different antigenic strains to assure the polyvalence which is obviously desirable.

Influenzal pneumonia is the most serious complication of influenza infection. J. Mulder (Netherlands) & C. H. Stuart Harris (England) consider its causes and its treatment. This complication is particularly dangerous because of the incredible speed with which it may progress in people of all ages, sometimes causing death within 24-48 hours. The role of the virus in influenzal pneumonia is difficult to determine in view of the numerous

The results of twenty years of study of influenza have been condensed into a single volume, comprising nine articles and a select bibliography, which will appear shortly in the WHO Monograph Series¹. These articles were requested from some of the scientists of worldwide reputation who were pioneers in this subject. Each of them deals with a particular aspect of the problem: the epidemiology of influenza, the history of the disease during the past century, the virus (its properties and its variants), the treatment of pulmonary complications by means of antibiotics and the prevention of the disease by vaccination are all considered in the monograph, the role of WHO which encourages the solution of pertinent problems on an international scale, is also traced.

In an article on the epidemiology of influenza, C. H. Andrewes (England) calls attention to the erratic, even "temperamental", nature of the disease which since 1889 has been one of the most significant causes of death in countries in temperate zones. Sometimes benign at other times deadly it owes its unstable character to the extreme variability of the virulence of the virus which is more plastic than any other known pathogenic organism.

There are two principal types of virus—A and B, type A being responsible for the most notable epidemics during the past twenty years. During this period virus A has undergone antigenic variations evident and significant enough to have warranted the designation in the classification of the virus of subgroups, of which FM1, the most recent, was active during the years 1947-52. The author mentions and develops certain hypotheses regarding the activity of the virus in inter epidemic periods when it is not easily found. In this connexion he reports the recent discovery of phases (P, Q and R) in the evolution of the virus and the possibility that the virus survives in an incomplete form.

Epidemics and outbreaks of influenza have left traces in the sera of individuals recovered from the disease or affected by unapparent infection. The antibodies to which the virus gives rise—specific for each type or subtype—can be determined by serological tests. The history of the epidemics of the past twenty years in the USA is thus retraced in a study by M. R. Hilleman, J. H. Werner & R. L. Gauld (USA). For example these authors have confirmed through analysis of sera of certain population groups that the subgroup PR8 isolated in 1934 was active in 1934-44 children born since 1944 have practically no antibodies corresponding to this strain. Since 1946 virus of the FM1 group has predominated.

Studying the trend of influenza mortality from 1920 to 1951, Z. Deutschman (WHO) calls attention to the lack of data and to the difficulties in comparing them, but notes that mortality from influenza has declined with particular rapidity, in almost every country since 1935. Biological factors

¹ World Health Organization (1954) *Influenza: a review of current research*. Geneva (World Health Organization Monograph Series No. 0) 44 pages. Price 17/6 \$ 3.50 Sw Fr 10.— French edition in preparation.

to human infection is more serious than has been generally believed. Before Scandinavian workers attacked the problem little systematic experimental research had been carried out. Today although in several countries—notably Denmark—the disease has been virtually eradicated in others it represents as much as 10% or more of all human tuberculosis involving glands, bones and joints and not uncommonly occurring in the lungs.

The epidemiological pattern of tuberculosis in cattle has been stamped by the fact that infection is produced by all three types of the tubercle bacillus—human, bovine and avian. Laboratory methods for isolating and typing strains thus have a particularly important part to play in controlling the disease. Two papers, one by Dr K. A. Jensen of Denmark and the second from the Weybridge Veterinary Laboratory, England, describe relevant laboratory techniques. A third contribution also from Weybridge concerns the preparation of purified protein derivative (PPD) tuberculins.

Although air borne infection and direct contact constitute a serious risk, the disease is transmitted mainly through the consumption of raw milk and milk products. The first lines of defence for the general population are therefore compulsory pasteurization of all milk and milk products and the periodic tuberculin testing of cattle with elimination of positive reactors to the test. In many countries the marking of reactor cattle is in force to obviate any danger of the animals being sold for purposes other than slaughter.

Mr J. N. Ritchie, Chief Veterinary Officer of the Ministry of Agriculture and Fisheries, gives an account of the measures taken to control the disease in British herds. A Government scheme for voluntary action by farmers was initiated in 1935: a farmer wishing to have his herd officially certified as free from tuberculosis must follow the rules of the Attested Herds Scheme designed to ensure that there are no reactors among his cattle and to protect them from the risk of reinfection. The scheme is now supplemented by a bonus system to cover the costs of testing and slaughter of positive reactors and by an area eradication plan which restricts the movement of cattle onto gradually expanding attested areas. By the end of September 1952 more than three and a half million cattle or 37.5% of the total cattle population of Great Britain were certified as free of the disease.

The question of cattle vaccination stimulated a certain amount of controversy at the seminar. In some countries BCG has been found to give uninfected calves some degree of protection and where economic conditions make it difficult to embark on a test and elimination programme vaccination may be of value. Elsewhere however its disadvantages are considered to outweigh its usefulness. It was generally agreed that the bases of a successful eradication programme are government assistance in

micro organisms with which it is associated. The authors discuss treatment with penicillin and other antibiotics and with the sulfonamides.

In the last article in the monograph, which has been summarized elsewhere in this number of the *Chronicle*,² A. M. M. Payne (WHO) describes the part which WHO plays in the study of influenza.

This monograph includes 21 illustrations, among them electron microphotographs showing the virus adsorbed onto red cells and photographs demonstrating certain laboratory techniques.

A select bibliography of some 400 references, independent of those which accompany the individual articles, completes the volume. This bibliography contains works which have appeared since 1948, priority being given to the most recent. The choice has been designed to aid those with limited time or facilities for studying the literature to acquaint themselves with recent work.

This monograph is intended not to replace but to complement and supplement the textbook, much that can readily be found in the standard works has been deliberately omitted. The aim has been to cover the most important aspects of recent advances and to offer a range of speculation beyond the province of the orthodox textbook.

See page 364

ADVANCES IN THE CONTROL OF ZONOOSES

Zoonoses is a relatively new term designating those diseases which are naturally transmitted between vertebrate animals and man. Their control is one of the major fields of veterinary public health.

In November 1952, FAO and WHO invited to a seminar in Vienna about 50 medical and veterinary specialists from 20 countries to consider the problems raised by the five zoonoses which are particularly widespread in Europe: bovine tuberculosis, brucellosis, leptospirosis, Q fever, and rabies. The papers read, and the discussions which followed are now recorded in a jointly published monograph.¹

Bovine Tuberculosis

The first—and largest—section of the monograph is devoted to five papers on various aspects of bovine tuberculosis. This disease, with respect

¹ World Health Organization (1953) *Advances in the control of zoonoses*. Geneva: World Health Organization. Monograph Series No. 19. 274 pages. Price 15/- 33.00 or Sw. fr. 1.—. French edition in preparation. Also published as No. 25 in the FAO Agricultural Studies series.

Leptospirosis

Leptospira attacks animals (particularly domestic animals such as dogs swine and cattle) more often than it attacks man nevertheless the disease might be described as an occupational hazard among workers in the Italian and Spanish rice fields Dr B Babudieri of the Istituto Superiore di Sanità Rome who was among those who inaugurated research on this problem in 1937, points out the importance of water in the epidemiology of the disease The favourite environment of the organism is semi stagnant tepid water and its hosts are largely rodents so that the persons most exposed to infection are sewage workers freshwater fishermen miners and in Italy the "mondine" or rice field cleaners

The *Leptospira* enters the human body generally by way of the skin and mucous membranes and causes a febrile infection frequently associated with dysentery and eye affections Although the disease is not a serious one in man recovery being the rule it has important economic implications in loss of manpower Preventive measures are thus very desirable Unfortunately control of the carrier rodents is difficult and disinfection of the water is costly and not effective for long Dr Babudieri suggests that vaccination of the workers might be tried since it has had some success with miners in Japan The use of antibiotics early in the disease is also proposed

Dr J W Wolff of the Institute of Tropical Hygiene and Geographical Pathology Amsterdam is the author of two papers on the methodology of leptospirosis research Since the clinical symptoms in many infections caused by different types of *Leptospira* may be closely similar laboratory procedures for culture serology and diagnosis are of the first importance The current attempt initiated by Dr Wolff to reach international agreement on standard techniques and nomenclature should considerably ease the task of the research worker in this field

Q Fever

During the past fifteen years this rather obscure disease originally identified in Australia has been found in the USA Central America Africa the Near East and many countries of southern and central Europe Since its effects in animals are comparatively slight it is of more interest to the clinician and the public health officer than to the veterinarian—except perhaps for the personal concern of the latter to avoid catching the disease as like other people such as shepherds and butchers whose work brings them into contact with animals he is particularly exposed to infection The chief European reservoir of the pathogenic agent *Coxiella burnetii* is in cattle and sheep although its versatility enables it to adapt itself to many types of host

the slaughter of infected animals, premiums on milk from non infected herds, and co operation with farmers. The support—moral, financial, and educational—of public health authorities is vital to the success of a control campaign.

Brucellosis

FAO and WHO have a particular interest in the progress being made in the control of brucellosis, since 1950 thirteen centres have been established under their auspices for the purpose of forwarding work on an international basis in this field. The disease is a great danger to both the public health and the economy of many countries. It has been estimated that in France brucellosis may well cost the State, solely in terms of aborted farm animals and social insurance more than 37 000 million francs a year. In different forms, *Brucella* affects cattle, swine, sheep, and goats causing abortions, infertility, and lowered milk yield and is thus an important contributory cause of the low standard of living in several areas of the world where people depend largely upon animal husbandry. A notable success of the FAO/WHO programme has been the virtual eradication of *Brucella melitensis* infection in north west Yugoslavia, where it was assuming serious proportions. Several of the centres are now working on the problem of finding effective vaccines to put an end to the reservoir of infection in sheep and goats.

All types of *Brucella* can infect human beings as well as animals but it is almost never passed from man to man. Dr G. E. Renoux, of the Institut Pasteur in Tunis discusses at some length the various modes of transmission from infected animals to human beings and the virulence of different types of the organism. In man the disease takes two forms: it can occur either as an acute but short lived fever, or as a long illness with periodic exacerbations. In many instances it is self-curing over a period of time during which incapacitation is common and late relapses are frequent. Rest, vaccine therapy and the administration of antibiotics (sometimes in conjunction with cortisone) are the chief forms of treatment. Antigen therapy must be used with care and precautions are advised against possible shock phenomena in this connexion. Hypersensitivity to vaccine was discussed by the seminar participants and it was concluded that desensitization might be achieved by the intradermic injection of diluted melitin (1%) or of a killed vaccine.

Dr A. W. Stableforth of Weybridge dealing with the control of animal brucellosis stresses the desirability of adapting control measures to regional differences in the prevalence of infection and in economic and educational conditions. Both in this paper and in another from the Weybridge Veterinary Laboratory, the preparation of vaccines and diagnostic techniques are described at length.

of rabies under control and considers the comparative value of live and killed vaccines for canine prophylaxis

An example of how to deal with the wildlife reservoir of the infection is contained in an interesting annex on the control of rabies in foxes in New York State contributed by Dr A Zerssig of the State Department of Health

Like Q fever rabies is not yet a notifiable disease in all countries Dr Kaplan recommends that this should be remedied and stresses the desirability of greater publicity for antirabies campaigns not only among the general public but also among health and veterinary officers who should for example be provided with simple instructions for the preparation and forwarding of specimens to diagnostic laboratories

A lengthy and valuable expose of diagnostic methods by Dr Lepine closes the section on rabies

* * *

A point which is repeatedly emphasized in the monograph is the importance of medical and veterinary collaboration in attacking the zoonoses Dr Jensen puts forward specific proposals for the co operation of veterinarians with physicians in controlling bovine tuberculosis Dr Renoux stresses that in any antibrucellosis campaign close co-operation should be maintained between the veterinary medical and hygiene services and suggests common specialized laboratories for the diagnosis of the disease and common agreement on regulations dealing with its detection and control Central laboratories for the distribution of *Leptospira* strains and positive control sera are also proposed Within recent years the setting up of veterinary public health units in many countries usually within the organizational framework of health departments has done much to synthesize the attack on problems of concern to each group Discussions at the seminar in Vienna as summarized in this monograph show an awareness of the value of this kind of integration and indicate new and practical ways of achieving it

PRESENT TRENDS IN THE CONTROL OF PLAGUE *

The scope of the deliberations at the second session of the WHO Expert Committee on Plague—held at the Haffkine Institute Bombay in December 1952—bears witness to the spectacular progress made recently in the treatment and control of this disease since the experts concen

This article lightly modified version of the introduction to the second number of the Bulletin devoted to plague control B N Wild H H Org 1953 9 579-530 It is of contents see inside back cover of this number of the Chronicle

Two of the papers on Q fever are by Dr Babudieri in one he gives a comprehensive outline of the epidemiology, diagnosis and prophylaxis of Q fever, while in the second he makes detailed recommendations on laboratory diagnostic methods, pointing out the limitations and pitfalls of some of the more widely used techniques

The disease is mainly transmitted through the air, almost all cases in Europe show pulmonary localization of the infection The best ways of preventing epidemics appear to be compulsory notification of human cases and the control of movement of animal carriers Slaughter of the animals is not considered an economic proposition Vaccination in man has given satisfactory results, particularly with highly exposed groups such as laboratory personnel, but it is not entirely without danger, as haemorrhagic nephritis has occasionally followed

WHO has recently sponsored a survey of the prevalence of Q fever in 28 countries and Dr M M Kaplan (WHO) reports on the methods used and the results obtained The laboratory procedure on which the survey was based was the complement fixation test Once again the recurrent theme of standardization to achieve comparability of results is stressed always with the proviso that different local facilities and preferences will naturally require variations in technique The WHO Expert Committee on Biological Standardization is in the process of establishing an international standard anti Q fever serum, which, it is hoped will shortly be available to national laboratories

Rabies

Of the five zoonoses discussed at the seminar, rabies is perhaps the most immediately dangerous to man since, if the disease gains a foothold it is almost invariably fatal Although the virus is pathogenic for all warm blooded animals the most important transmitter in almost all countries is the dog Dr Pierre Lepine, of the Institut Pasteur Paris, discusses the forms taken by natural and experimentally induced infection in this animal and outlines the development of antirabies vaccination for bitten persons This—the only method of treatment—has always been associated with a certain proportion of failures although there is ample statistical and experimental evidence of the protection it confers Great hope is now placed, however in the immediate injection of concentrated hyper immune horse serum which neutralizes and destroys the virus before it penetrates the nervous system This method employed in conjunction with the classic vaccination treatment may also reduce the number of vaccine injections necessary, and hence the risk of paralytic reactions

Dr Kaplan gives an analysis of the mechanism of field-control programmes He lists the fundamental requirements for bringing an outbreak

was an essential second line of defence against bubonic plague. In the case of pneumonic plague administration of sulfonamides to the contacts of patients was considered quite capable of nipping in the bud the spread of this form of the disease.

The investigations of S. S. Sokhey, P. M. Wagle and M. K. Habbu have shown that while the sulfonamides are of definite value also in the treatment of bubonic plague far better therapeutic results not only in this but in all other forms of the disease can be obtained with streptomycin or certain other antibiotics. Definite recommendations for the use of these therapeutic substances as well as for that of the sulfonamides were made by the committee.

Dealing with practically the only problem still complicating the laboratory diagnosis of plague G. Girard discusses the methods available for differentiating between *Pasteurella pestis* and the pseudotuberculosis bacillus. Although several procedures have been recommended and tests with specific bacteriophages in particular deserve attention Girard advocates the use of rhamnose containing media on account of their ease of application and general reliability.

The present state of knowledge on the classification of the plague bacillus by means of biochemical methods is summarized by R. Pollitzer. In his paper he dwells particularly upon the epidemiological importance of tests made with glycerol containing media with the aid of which it is possible to differentiate between two races of *P. pestis* showing a distinct geographical distribution. The significance of this test and the need for its universal use were recognized by the committee who however also recommended that other methods for demonstrating the existence of varieties of the plague bacillus should be further evaluated.

At its first session in 1949 the committee recommended that an investigation into the extent of wild rodent plague in Africa should be carried out since knowledge of the geographical distribution of this form of the disease was still imperfect at that time. The results of this survey have now been summarized by D. H. S. Davis in an article which embodies most valuable information on the incidence and epidemiology of plague in Africa.

Finally J. M. de la Barrera's contribution draws attention to some wild rodent species in Argentina which have been found to be infected with plague and have not hitherto been mentioned in publications dealing with the subject.

trated their attention upon an evaluation of existing methods rather than upon a search for new ways and means of combating the scourge

The papers which were submitted to the committee and which prompted the recommendations made in its report on this session, have been published in the *Bulletin of the World Health Organization* together with the report itself

The first paper, by V B Link and C O Mohr deals with methods for controlling the rodents—particularly the rats—which form the reservoir of the infection. It is pointed out that some new rodenticides by far surpassing in efficacy those formerly used are now available, but that the sphere of usefulness of the new products which exert a rapid action is limited in that they are liable to be dangerous for domestic animals and man as well as for the rodents. Attention is therefore drawn to the quite recently introduced anticoagulants which, although not dangerous for domestic animals or for man prove fatal for rodents if ingested repeatedly

The committee while fully recognizing the value both of prolonged anti rodent campaigns with anticoagulants and of the new rapidly acting rodenticides when used with due precautions, emphasized the fundamental importance of rat proofing methods—in particular house improvement—which permanently reduce or even completely preclude contact between the rodents and man, and are therefore the ideal means of combating rat borne diseases

The excellent results obtainable in plague control with the insecticides now available are exemplified by P M Wagle and S C Seal in a contribution which summarizes the work done in this connexion in India. Observations made in that country as well as in other foci have demonstrated so fully the efficacy of DDT in destroying the vector fleas that the application of this insecticide has undoubtedly become the method of prime importance for dealing with actual plague manifestations

On the other hand, from South America comes the disquieting information reported in the article by C Sáenz Vera that repeated applications of DDT may induce a resistance to this insecticide in the flea populations concerned. In view of this the committee recommended that the search for new insecticides which—should the need arise—could replace DDT in antiflea campaigns should be continued

The comparative value of the various plague vaccines for the control of the disease is very thoroughly dealt with in a paper by K F Meyer, who has reached the important conclusion that the availability of an adequate amount of the immunizing Fraction I rather than the type of vaccine (killed or living) chosen, is the factor determining the efficacy of a given vaccine

Though fully appreciating the value of insecticides in the fight against plague outbreaks the committee in contradiction to some recent statements stressed that the carrying out of vaccination during the off seasons

Notes and News

Regional Committee for South East Asia Holds Sixth Session in Bangkok

In a four day session (15-19 September 1953) the WHO Regional Committee for South East Asia approved plans for more than one hundred health aid projects for 1955. These plans, if approved by the Seventh World Health Assembly as part of the Organization's programme for the year, will entail an expenditure of approximately \$3 600 000 and an international staff of about one hundred and fifty specialists in various fields. Among the projects envisaged are ones concerned with nursing, maternal and child health, tuberculosis, education and training, mental health, vital statistics and plague.

As at meetings of other regional committees, attention was drawn to financial stringencies caused by cuts in Technical Assistance funds. The committee members were assured, however, that WHO would implement the maximum number of projects within the limits of its regular budget and whatever other funds it might have at its disposal.

In his annual report on the work of the previous year, the Regional Director, Dr C. Mant, revealed that as of 31 July 1953, WHO had 128 international health workers engaged in more than forty different projects in the region. In a foreword to the report, Dr Mant pointed to the gradual shift in emphasis in WHO's work in South East Asia over the past four years, from demonstrations on the control of certain communicable diseases, attention has been turned to programmes which stress education and training of national personnel, health education and environmental sanitation.

Among the subjects discussed at the committee meeting was the problem of the critical shortage of specialized personnel. The committee recommended a system of regional interchange of experts, each country being responsible for financing the loan of specialists made available to it from other countries of the region. The WHO Regional Office in New Delhi will act as an international clearing house for such exchanges.

Another problem considered by the committee was the difficulty of interesting medical graduates in preventive services rather than in curative medicine. Although numerous experiments to improve the conditions of service of government health workers have been tried, no satisfactory solution has yet been found in any country. The committee felt that there was a need for reorientation in undergraduate medical education, greater emphasis being placed on the value of preventive medicine.

Malaria, which is a health concern common to almost all the countries of the region, was the subject of a specific committee decision in which member countries were called upon to try to carry out large scale campaigns against malaria, with a view to the eventual establishment of a co-ordinated region-wide antimalaria programme.

Present at this sixth session of the Regional Committee for South East Asia were representatives of Afghanistan, Burma, Ceylon, French India, India, Indonesia, Portuguese India and Thailand. Dr Abdul Rahim of Afghanistan was Chairman of the committee. The session was attended by the new Director General of the Organization, Dr M. G. Candau, who was visiting the South East Asia Region.

Third Session of Regional Committee for Africa Held in Kampala

The WHO Regional Committee for Africa met for its third session from 21 to 25 September 1953 at Kampala, Uganda. Delegates from Belgium, France, Liberia, Portugal, the United Kingdom and Southern Rhodesia (Associate Member) discussed and approved a programme for 1955 which includes projects relative to malaria and insect control, venereal disease and treponematoses, tuberculosis and other health concerns such as

MORBIDITY AND MORTALITY FROM NOTIFIABLE DISEASES

Part II of *Annual Epidemiological and Vital Statistics, 1947-1949*, which is entitled 'Cases of and Deaths from Notifiable Diseases',¹ has recently been published by WHO. Part I, 'Vital Statistics and Causes of Death', appeared in 1952.*

The new volume contains, as its title indicates, information on cases of and deaths from, notifiable diseases. There are more than thirty such diseases, ranging from plague to puerperal infection and including the rickettsial diseases, leprosy, malaria, syphilis, influenza, poliomyelitis, and the communicable diseases of childhood. Figures for morbidity and mortality are given for more than two hundred States or territories. Duly revised data from official publications and replies to questionnaires addressed to national health administrations and statistical offices were used in compiling the information.

The data are presented in a clear and practical manner. For each disease there is a large table showing, by country and for each of the years 1947 to 1949, the total number of cases and deaths per year and the number of cases and deaths per month or four week period (to show seasonal fluctuations). At the end of each table certain countries are included for which only annual totals are given, either because the total figures were the only data available or because they were too small to be broken up into periodic figures; similarly, annual figures only are given for a few diseases which have no marked seasonal tendencies. Full notes are appended to all tables.

A synoptic table lists the diseases which on 31 December 1949 were notifiable in a certain number of countries. An alphabetical index completes the volume.

All who are interested in health statistics or the trend of communicable diseases throughout the world will find this work of value. It is, at present, the only official source of such information covering so large a number of countries. In addition the fact that this volume follows on without a break from the series published by the League of Nations from 1923 onwards increases its importance as a document for reference and study.

¹ World Health Organization (1953) *Annual Epidemiological and Vital Statistics, 1947-1949*. Geneva. Part II. 291 pages. Price s5/-, s3 7s or Sw fr 15.—. Bilingual edition: English and French.

* See *Chron. Wild Dis.* O.g. 1952, 6, 274.

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See *Chron. Wild Dis. O. G.* 1952, 6, 274.

and poverty community conditions like inadequate and low finances under developed community organization and extraneous conditions such as a large migratory or squatter population

"These hazards are actual and their impact upon the health of the people and on the economic development of the nation are well known. Let me mention a few of the experiences substantiating the economic factors involved

"Malaria control work in Greece a co-operative effort of the Greek Government in collaboration with the World Health Organization and the Economic Co-operation Administration Mission reduced the cases of malaria from 2 000 000 to 50 000 an estimated saving of 30 000 000-60 000 000 man work days a year equivalent to adding 100 000-200 000 workers a year with no additional mouths to be fed

"In Pakistan one season's work on malaria control in an Eastern Bengal area is said to have increased the rice crop yield by 15/

"Malaria control programmes in certain regions of the Transvaal has increased the area of irrigated lands within 10 years from 700 acres to 12 000 acres and has upped the price of land four fold

"A yaws-campaign programme in Haiti jointly carried on by WHO and UNICEF has returned 100 000 incapacitated persons to work increasing the national production of Haiti by \$5 000 000 a year

"Many more instances can be cited where improvements in the health of the people elimination of health hazards and the provision of healthy environment have yielded huge returns in the economic well being of the people and of their respective nations

"We are now convinced that health is purchasable. The initial price we have to pay for health will be big but the cost of upkeep will be small. The returns however are tremendous and they are continuing—in the forms of big reserves of healthy and able life-capital for sustained productive labour greater production with consequent increase of financial return raising standards of living national progress security and peace

A healthy and productive population is the basis of national economic progress "

Attainment of World Health

At the closing session of the Philippine Medical Association's Annual Meeting Mr Teodora Evangelista President of the Far Eastern University defined the concept of health and at the same time paid tribute to WHO (*Journal of the Philippine Medical Association* May 1953)

The medical profession deals with aspects of humanity which are understandable to all. It is no wonder that many people think that the World Health Organization [is] doing more to bring mankind together in its unobtrusive but effective way than more dramatic and more articulate entities with the same purpose. Health in the concept of that body is not merely the absence of disease. It is also an attitude of living that is wholesome and hopeful. In working for the health of the whole world it is aware of the fact that health brings faith disease despair and that pain and suffering bring fear and insecurity in their wake

It did not surprise anyone when the Director General of the World Health Organization Dr Brock Chisholm said that the health of people is fundamental to the attainment of peace and security. You doubtless know the scope of the work covered by that organization of doctors and other workers in its determination to conquer the health problems of the world and to fight the disease-enemies of mankind

The Philippines has helped in the conquest of these enemies. Indeed its medical work has come to be held in such high esteem that one of its outstanding doctors Dr Juan Salcedo jr was elevated last year to the eminent position of Chairman of the World Assembly of the World Health Organization. Our other doctors have also done exceedingly well in international medical conferences and our experts in various medical fields enjoy deserved recognition. We can hold our own in this phase of human endeavour "

nutrition nursing and general efforts to strengthen public health administrations in various territories of Africa. This programme calls for a budget of more than \$900 000 which is approximately the same as that approved by the Sixth World Health Assembly for the year 1954. Funds are expected to be forthcoming from the United Nations Technical Assistance programme and UNICEF as well as from the WHO Regular Budget.

A number of intercountry programmes for 1954 and 1955 were also approved among them support of the Malaria Institute at Amani, Tanganyika, for which UNICEF will provide supplies and equipment; a malaria conference following up that which was held in Kampala in 1950; an international symposium on yaws control planned for 1955; a conference on health statistics to be held in the same year; and a conference on onchocerciasis.

The Regional Committee for Africa appointed an ad hoc group to investigate problems arising out of the establishment of the Regional Office in Brazzaville. This group composed of representatives of Belgium, France, Liberia and the United Kingdom will report on its findings to the Regional Committee as soon as its study is completed.

Plans were made for the next two meetings of the committee: the fourth session will be held during the third week of September 1954 at Leopoldville, Belgian Congo; and the fifth session will take place in Tananarive, Madagascar.

Views on WHO

"Health Is Our Wealth"

Dr Juan Salcedo Jr., President of the Philippine Medical Association in an address delivered at the Opening Session of the 46th Annual Meeting of the Association gave much prominence to the control programmes initiated by WHO and their resulting economic effects. The following are extracts from the address which appears in its entirety in the May (1953) number of the *Journal of the Philippine Medical Association*.

"The main theme of my address is the economic value of health. I have therefore given to it the title *Health is our Wealth*.

"This theme is neither original nor new. You have heard of it before and I must admit that it is merely an adaptation of the theme underlying the observance of World Health Day this year by all the member nations of the World Health Organization. It is however assuming a fresh significance in view of the emphasis being given to health in the present world-wide economic movement.

"For the two diseases which are major causes of suffering and death in

the Philippines I would like to quote the Undersecretary of Health, Dr Regina G. Padua, who at the Fourth World Health Assembly stated that in a total population of 20 000 000 people there are 2 000 000 victims of malaria with 10 000 annual deaths and 1 300 000 sufferers from tuberculosis with 35 000 annual deaths. The estimated economic loss due to death and disability from these two diseases is \$660 000 000 or \$33 per person per year (on the basis of \$2 000 for each death and \$150 a day for disability).

"A consolidated report of a reconnaissance survey of health conditions in Mindanao states: 'The health problems in Mindanao are complex and constitute actual and potential threats to the development of the island as well as real human and economic losses. The health problems can be listed as malaria, schistosomiasis, intestinal parasitism, diseases associated with unsafe water supplies and improper sanitation, maternal and infant mortality and tuberculosis.'

"Intimately associated with these health problems are human social and economic conditions such as ignorance,

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Conference on Diphtheria and Pertussis Vaccination

Under the title *Diphtheria and Whooping-cough* the *Lancet* of 18 July 1953 commented on the control of these diseases and on the conference which was held under the auspices of WHO in Dubrovnik Yugoslavia

The national diphtheria immunisation campaign is little over ten years old but it is estimated that the country has already been saved the lives of 10 000 children and some £10 million in the cost of hospital treatment. Thus the campaign though tardy (France Canada and the United States preceded us in mass immunisation) seems to have been dramatically successful and it is believed that so long as a high proportion of the child population continues to be immunised diphtheria cases will remain rare. The position with regard to pertussis immuni-

sation however is much less satisfactory there are great difficulties in preparing consistently reliable vaccines and whooping-cough remains one of the deadly diseases of young children

"In 1949 WHO decided that there was need for a conference on active immunisation against common diseases of childhood. For budgetary reasons however the conference was postponed until 1952. The cost of such a conference cannot be great and it seems a sad reflection on human common sense that the nations of the world had to postpone for years so obviously useful a service while children continued to die unnecessarily and resources had to be wasted on hospital treatment of patients who need never have become infected. It is perhaps heartening however that such a conference should be held at all and that 15 delegates from twelve countries should have met with such an excellent object

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